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May 1959 VOLUME 24 • NUMBER 2

Tongue Thrusting in One of Monozygotic Twins 105
RALPH L. SHELTON, JR., RICHARD C. HASKINS AND JAMES F. BOSMA

Dysarthria in Cerebral Palsy 118
MARY CLEMENT AND THOMAS E. TWITCHELL

Significance of Problems of Conditioning in GSR Audiometry..... 123
WILLIAM G. HARDY AND MIRIAM D. PAULS

Speech Therapy in the Public Schools:
State Legislation and Certification 127
RUTH BECKEY IRWIN

A Servo Model for Speech Therapy..... 144
EDWARD D. MYSAK

Speech Stimulation Practices among Preschool Children..... 150
SIDNEY GODA AND KAY SMITH

Clinical Notes
Carry-Over with 'Speech Pals'..... 154
ERLEEN MARQUARDT

Speech Rehabilitation for Laryngoplasty..... 157
JANICE R. SIEGEL

Book Reviews 159

Abstracts 164

Special Announcement 176

News and Announcements 177

Errata 188

Clinical Certification 189

Examining Committee for Certification in Hearing..... 190

Standards in Public School Speech Correction..... 192

Honors of the Association..... 193

Coming of Age in a Profession..... 195
JON EISENSON

Report of the Convention..... 201

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Tongue Thrusting In One Of Monozygotic Twins

Ralph L. Shelton, Jr.

Richard C. Haskins

James F. Bosma

Tongue thrusting, an abnormal protrusion of the tongue in relation to the incisor teeth, is a common disorder of the oral area during childhood. It is associated variably with open bite and with defects of speech articulation and, therefore, is of interest to the speech pathologist as well as to the orthodontist and the pediatrician.

This paper presents a comparative study of a pair of probably monozygotic twins, one of whom, twin *B*, displays tongue thrusting, anomaly of tongue form and impaired articulation. The coincidence of these presumably non-genetic differences between these children has provided a unique opportunity to gain information about the etiology of tongue thrusting and its relationship to dental malalignment and speech defects.

Methods of Study

The subjects of this study were a pair of female twins (herein designated as *A* and *B*), aged 10 years, two and one-half months, when first seen in this project. Twin *B* was referred by an orthodontist who felt that pressure from her tongue would interfere with orthodontic treatment. The following examinations of each child were made:

General Examination. Physical, dental, neurological and electroencephalographic examinations were performed on each girl, and a blood sample from each was examined serologically.[1] Case histories were obtained, and the hospital records of the mother and the children at the time of the twins' birth were studied.

Speech. Each girl's articulation was evaluated by a picture card test. Voice quality and intelligibility of connected speech were judged subjectively as the girls read a standard passage (*2*). Language development was appraised by use of Ammons and Ammons'

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[1]Dr. Crichton McNiel, Director of the Blood Grouping Laboratory of the Salt Lake General Hospital, determined that each twin has blood type O Rh positive CDe/C e MM S. This was interpreted as indicating at the .025 level of confidence that the twins are monozygotic. The placental morphology supported this diagnosis.

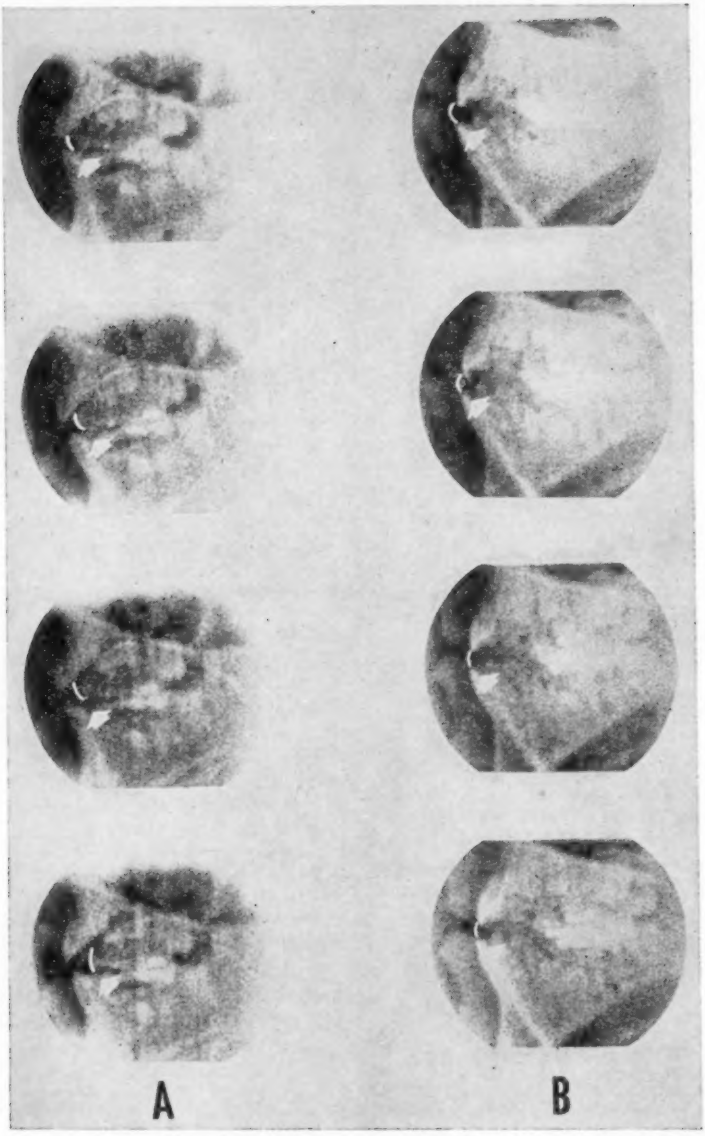

FIGURE 1. Consecutive cinefluorographic frames showing the point of maximal tongue protrusion during swallowing in upright position in each subject. Arrows indicate the outlined tongue tip. It will be noted that the tip of *A* remained within the oral cavity, whereas that of *B* protruded beyond the teeth.

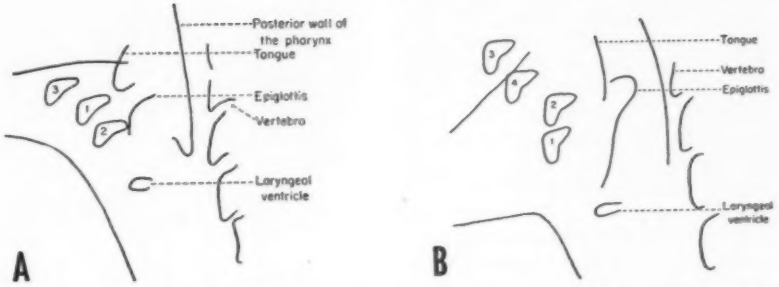

FIGURE 2. Overlay tracings of cinefluorographic film of the hyoid bone of each twin during deglutition in the upright position. The numbers indicate the serial position of the hyoid bone. The patterns of hyoid movement differed in the two and there was a greater range of hyoid displacement in *B* than in *A*. In twin *B*, position 4 represents a return toward the rest position. The film of this sequence in *A* ended before the hyoid returned to a rest position.

Full-Range Picture Vocabulary Test. The laterality of each girl was determined by use of the procedures of Blau and of Harris as modified by Berry and Eisenson (*4*).

Psychological Evaluation. The general personality development and intellectual level of each twin were tested by projective figure drawings, the Murray Thematic Apperception Test, and the Wechsler Intelligence Scale for Children. The psychologist was asked to note particularly tendencies toward oral gratification and indications of brain damage.

Roentgenographic Studies. Roentgenographic studies were made of the function and form of oral and pharyngeal structures. Motions of the anterior portion of the mouth, the soft palate and the hyoid bone were recorded by cinefluorography. During the filming of the anterior portion of the mouth, each girl swallowed a bolus of liquid barium mixed with chocolate and then phonated '[i], one, two, three.' In the other views phonation and falsetto phonation were limited to the sound [æ]. Cinefluorography of swallowing was performed in both upright and supine positions, but phonation was done only in the upright position. Move-

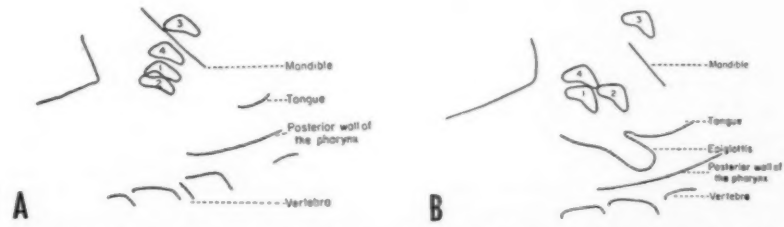

FIGURE 3. Overlay tracings of cinefluorographic film of the hyoid bone of each twin in deglutition in the supine position. In *B* the total pattern of hyoid motion was of an oval form compared to a linear form in *A* and the range of displacement was greater in *B*.

ments of the lips, tongue and soft palate were observed and described from projection of the films. Some of the frames were printed photographically, as in Figure 1, for study purposes. The movements of the hyoid bone were portrayed by overlay tracings of appropriate frames (Figures 2 and 3). The technique used has been described by Fletcher (7).

Hyoid position and displacement were studied roentgenographically in static poses of rest, neck flexion, neck extension, mouth widely open and mandible protruded. Overlay tracings were made, using the maxillary central incisors, the base of the cranium and nasion for reference sites from which to measure hyoid movement. The information obtained was compared with observations of similar films of normal subjects to provide a basis for determining which girl presented the more nearly normal pattern.

The cranial and facial development of each girl was analyzed by skeletal measurement of lateral roentgenograms. Body section roentgenograms of the head and neck of each twin were taken in the anteroposterior projection.

The cine-roentgen apparatus used for this study was a Westinghouse Cinefluorex with image intensifier and incorporating a Kodak 16-mm. camera. The camera, which was operated at 30 frames per second, was equipped with an F-1.6 lens of 55-mm. focal length when the film was taken of *B*, but an F-1.0 lens was installed before the film of *A* was taken. This change reduced the amount of radiation produced for a given amount of exposure time and reduced the size of the image so that during projection a given structure would appear smaller. The latter change did not interfere with a comparison of the film of each twin. In Figures 2 and 3 the difference in size has been corrected photographically. Kodak Linagraph Shellburst film was used. The film was analyzed with a Kodak Analyst projector as modified by Weinberg and Watson. This projector permitted projection at from five to 20 frames per second without appreciable flicker.

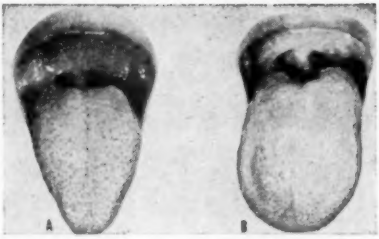

FIGURE 4. Photographs of the tongue of each twin maximally protruded. The tongue of *B* was found consistently to be broad and flat, but higher on the left than on the right side. It will also be noted that the mammelons of the maxillary central incisors are present only in twin *B*.

The static poses were taken with a Westinghouse Fluorodex Model 500. Standard film holders and Patterson high speed screens were used. Soft tissue definition was made possible by settings of 100 ma and 74kv with exposure time of 1/20 second at a focal film distance of six feet through a four-inch cone. The roentgenograms of *B* were taken with Kodak Blue Brand film whereas Kodak Royal Blue film was used for *A*. A General Electric Ordograph with multiple cassette holder was used for the body section roentgenograms. In the entire study *B* was exposed to 16.2 and *A* to 4.9 roentgens over a small fraction of the total body volume. The difference was the result of the changes in lens and film noted above.

Photographic Studies. Frontal and lateral portraits were taken, and pho-

tographs were made of the tongue maximally protruded (Figure 4) and of the oral cavity with the tongue relaxed. Other still photographs were made with each girl trying to use the tongue tip to hold a cracker crumb against the maxillary central incisors. Motion pictures were taken of the oral cavity during phonation, tongue protrusion and closure of the jaws showing the dental occlusion of each girl.

Evaluation of Passive Mobility of the Tongue. A device was made for the evaluation of tongue flaccidity. This consisted of a syringe, manometer, and a funnel with a 23-mm. rim diameter which tapered to three millimeters. The funnel was placed on the tongue, and a negative pressure was developed in the syringe and measured by means of the manometer. The actual comparison was made by noting the extent to which the funnel was filled with tongue tissue at a given negative pressure. This procedure was used on the tongue tip and on the tongue dorsum.

Results

From the majority of the examinations described above, it was determined that *B* showed mild motor disability of the tongue, lips and adjacent organs. This motor dysfunction was associated with abnormality of form, and it was felt that the combination of abnormality of tongue form and function resulted in dental malocclusion. The specific findings were as follows:

General Observations. These twins are the only children of their parents. The pregnancy from which they were born was normal except for the development of exceptional dependent edema. Labor was spontaneous at estimated seven and one-half months gestation. *B* was born six minutes after her sibling. They were of equal birth weight. The umbilical cords were joined to a single placenta, but each fetus had a separate amniotic sac. There was some difficulty in the initial arousal of *B*. She required oxygen supplementation for approximately four weeks and remained in the hospital six weeks compared to a three-week period for *A*. At birth *B* had an umbilical hernia, an abnormally large tongue and a superficial capillary angioma covering a large area on the forehead.

The general health of each twin has been good. Motor achievements of posture and gait occurred on normal schedule but with *A* consistently a few weeks ahead. The girls' motor function in the mouth and pharynx area during infancy was thought to be entirely normal. At the onset of the present study, the extremity reflexes of each girl were found to be normal and symmetrical. Their posture and ambulation were adequate; however, in *B* flexion of the neck from supine and extension from the prone positions caused deviation of the head to the right. When first examined *B* was 59.5 inches tall and weighed 72 pounds and *A* was 58.5 inches tall and weighed 66.5 pounds. Four and one-half months later, B was 60.5 inches tall and 76 pounds, and *A* had grown to 60 inches and 71.5 pounds.[2] The EEG records showed spike seizure activity in the temporal lobe of either side of each girl, but there were no unusual patterns in cortical areas that

[2]Plotted on the Wetzel grid, both girls were found to fall in the B4 (very slender) physique channel. On the auxodromal (developmental) schedule, *B* was found to be at the mean for her chronological age, but *A* was six months delayed.

would influence motor performance.

Because of the size of *B's* tongue, thyroxin was administered to both girls for five days, beginning 14 days after birth. Most of the family photographs of *B* during infancy and early childhood show her tongue protruded between her teeth. The girls were bottle-fed and no pacifiers were used. The mother recalled that when the bottles were empty neither girl had any desire to continue sucking on them; but the girls resisted weaning, delaying the process beyond the time the mother thought was proper. After the weaning was well underway, each continued to insist that supplementary juice be fed from a nursing bottle, but the bottle need not have a nipple. The mother was unable to recall the age of weaning. Each girl sucked her thumb during infancy, and *A* still does so when at home. *B* persists in protruding her tongue between her teeth even though her mother frequently reminds her to withdraw it.

Speech. Speech evaluation showed that *B* distorted the [ʃ] sound and occasionally slighted [t] and [d] in the final position of words, whereas *A* had no speech defects. On a disc recording, which was probably made after the children entered school, *B*'s voice had moderate assimilated nasality; but the voice of each girl was of pleasant quality and of adequate range and intensity when studied in this project. The mother reported that in telephone conversations she often could not tell one girl from the other. On the Full Range Picture Vocabulary Test, *B* scored a mental age of 13.50 and *A* of 13.75.

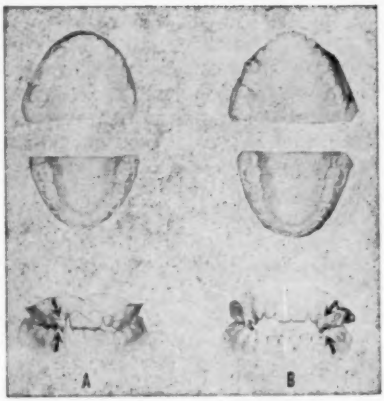

FIGURE 6. Transverse and frontal views of the dental models of each twin. The transverse views show the dental asymmetry of each. The frontal views show each twin's reciprocal sided open bite and cross bite. The latter are indicated by arrows. The open bite of *A* is slight, whereas that of *B* is extensive, being most marked on her right side.

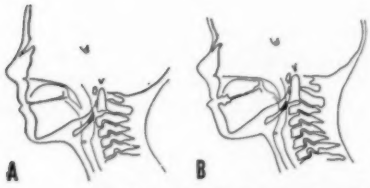

FIGURE 5. Tracings of still X rays of twins *A* and *B*. Of special interest are the angle formed by a line from nasion to sella turcica to Bolton point (each landmark is indicated by a dot), the angle between the nose and the maxillary lip, and the dental occlusion.

Thus, *B*'s articulation was minimally defective and *A*'s was normal. Their voices were adequate, and their language development was superior. It appeared that *B* had spontaneously learned compensatory tongue movements in speech, and considering the deficiency of function and form of the tongue and other structures, her speech was near the maximum of which she was capable. Both girls proved to be right-handed to the same extent. *A* was better coordinated in

the eye-sighting test than was *B*, and the quality of her numbers on the simultaneous writing test was much better. Motions of the lips, soft palate and hyoid bone of each in speech are described below.

Psychological Evaluation. Each girl was found to be intellectually superior and emotionally adequately adjusted. It was noted that each girl, but especially *A*, was concerned about her oral cavity. *B*, however, gave evidence of acceptance of her oral abnormalities. Neither girl showed indications of brain damage.

Cephalic Skeleton. The cephalic skeleton of each girl was evaluated by means of roentgenograms and dental models (Figures 5 and 6). Measurements from tracings of the cranial roentgenograms (Figure 1) indicated that the angle from nasion to sella turcica to basion for each was normal. The angle for *A* was 126 degrees, and that for *B* was 132 degrees. Björk (*5*) wrote that after age 10 growth changes in this angle are slight. In a longitudinal study of 243 males, he found a correlation of .91 for this angle as measured at ages 12 and 20. At age 12 the mean for the angle was 130.8 degrees and the standard deviation was 4.2 degrees.

Each girl had a reciprocal sided open bite and cross bite, with *B* showing the greater deformity in each respect. The open bite, a failure of cephalo-caudad occlusion of the mandibular and maxillary incisor teeth when the posterior teeth are occluded, was situated primarily to the right of the midline in *B*, but to the left side of the midline in *A* (Figure 6). The problem was severe only in *B*. The mammelons of the incisor teeth of *B* were still present, reflecting lack of abrasion by approximation during function (Figure 4). The cross bite of *B*, a lateral malalignment of mandibular to maxillary teeth, was in the left canine area and that of *A* was in the right canine area (Figure 6).

In roentgenographic study, no differences were found between the temporomandibular joints of the girls, but the gonial angle in *B* was more obtuse than that of *A*. The mandible of *B* was found to be abnormally mobile and slightly protruded at rest. It could be protruded and moved freely toward either side, but further to the right than to the left. Mandible retrusion was difficult for her. As estimated by palpation, the masseter and temporalis muscles were symmetrically diminished in size but of fair strength. Coordination of the upper and lower areas of the face and of the muscles of mastication were normal in *A*.

Cinefluorography demonstrated that during phonation of [i] *B* thrust her mandible ventrad as it returned to the closed position. This movement did not occur in *A*. There was also a difference in the opening and closing of the mandible in the twins. *B* moved her mandible in a dorso-ventrad motion, whereas *A* used a hinge-like motion.

Lips. At physical examination the maxillary lip of *B* appeared to be shortened transversely compared with the mandibular lip. Elevation of the corners of her mouth could not be voluntarily elicited. *B*'s mandibular lip was lax and pendulous at rest, and it protruded excessively when she puckered her lips. Otherwise, it functioned adequately. As viewed cinefluorographically, the maxillary lip of *B* was less mobile than that of *A* in articulation and in swallowing. During swallowing in upright position, *B*'s lip seemed to move only as it was pushed by the mandibular lip. In the articulation of 'two,' *B* failed to move

her lips to any noticeable extent, whereas *A* pursed hers adequately. *B*'s maxillary lip was also seen to be less mobile in color motion pictures of tongue protrusion.

The still roentgenograms and photographs showed that the angle between the nose and the maxillary lip was more obtuse in *B* than in *A*, and her philtrum was shorter (Figure 5). Arey (*1*) illustrated that the angle becomes less obtuse with maturation.

Thus, *B*'s lips, especially her maxillary lip, were retarded in patterns of motion and muscular capacity. This retardation was associated with unusual lip form. *A*'s lips were of normal contour and function.

Tongue. Studies of the tongue of each twin indicated that *B*'s tongue was immature in form, structure and motor performance. While her tongue appeared to be large, the more important difference was the broad, flat shape and the associated deficiency in function. It was apparent (Figure 4) that during protrusion *B*'s tongue was broad and asymmetrical, while *A*'s was narrower and came to a discretely molded tip. In *B* the right side was smaller in volume than the left. There was no indication of chronic trauma to the mucosa of the tongue in the area of contact with the teeth.

In some demonstrations of motion, *B*'s tongue functioned adequately. The range of retrusion within her mouth was normal and her lingual sounds [s] and [z] and her glide sounds [r] and [l] were acoustically correct. During swallowing, her tongue adequately carried the bolus back from the oral cavity, and she was able to protrude her tongue maximally without measureable deviation from the midline. In other regards, however, motions of *B*'s tongue were exceptional. There was the basic tongue protrusion problem and an associated dextral displacement at the tip. By palpation it was found that *B* could move her tongue with greater strength to the right than to the left. This was reflected in the rest position in which the tongue was placed between the teeth in the area of the open bite. The tongue was similarly placed for the production of [s] and [z]. In the cinefluorography of '[i], one, two, three,' each girl sounded adequate, but *B* blended the [n] of 'one' and the [t] of 'two' together, whereas *A* made a distinct tongue placement against the rugal ridge for each of those sounds. *A*'s performance was more like that seen in the film of other normal subjects. *B* also protruded her tongue excessively for the [θ] in 'three' and markedly protruded her tongue after passage of bolus in deglutition (Figure 1). This could also be observed visually by having *B* swallow while her lips were held open.

A readily learned to hold a cracker crumb against the inner surface of the maxillary central incisors with her tongue, but *B* was unable to do so because her tongue would protrude past her teeth. The test of tongue consistency showed that *B*'s tongue was more flaccid than that of *A*.

Palate. Photography of the oral cavity showed the palatine folds to be normal and symmetrical in each twin, but the uvula of *B* usually deviated to the left. During phonation the palate elevated higher on the right than on the left in each girl, and the uvula continued to deviate to the left in *B*. The reason for the asymmetrical elevation of the palate was not determined. Palate function of each girl was normal as viewed by cinefluorography. Differences between the soft palates of the girls were minimal.

Hyoid Bone. Particular attention was given in this study to motor performance of pharynx suspension as typified by motions of the hyoid bone. In interpretation of the still roentgenograms, comparison was made of changes in the relationship between hyoid bone and cranial skeleton, whereas in the viewing of the cinefluorographic film the emphasis was upon the analysis of patterns of motion. This emphasis was necessary because the stable anatomical landmarks from which hyoid motion can be measured are fewer and less clear in the small area shown in the cinefluorographic film. A combination of the still and motion picture techniques thus facilitates an analysis of the function of the muscle groups suspending the hyoid.

In the still poses of marked neck extension and of wide open mouth, the hyoid of each girl was displaced caudad and dorsad from the rest position. These findings are typical of normal subjects wherein hyoid displacement has been found to occur in even moderate neck extension or mouth opening.

In the other two poses, neck flexion and mandible protrusion, differences were noted. In flexion, *A*'s hyoid was displaced cephalad and moderately ventrad, and in mandible protrusion it was moved moderately cephalad. There was no displacement of the hyoid in *B* in these activities. Cephalad or a combination of cephalad and ventrad displacement of the hyoid incident to neck flexion was found in each of nine normal subjects studied. In six of those nine subjects the hyoid moved cephalad, ventrad or cephaloventrad in mandible protrusion. Therefore, the lack of such displacement in *B* is felt to be indicative of a moderate neuromuscular deficiency of all or part of the hyoid suspensory musculature. Dysfunction of the musculature suspending the tongue-hyoid-larynx column in poliomyelitis has been discussed by Bosma (*6*).

In the cinefluorography of the hyoid in phonation, the pattern of hyoid displacement was similar in each girl. This similarity was more marked in falsetto phonation. The principal difference was that the range of displacement was greater in *B* than in *A*. This is not clear evidence of a maturation difference, although Scheier (*23*) noted that there is much less hyoid and larynx displacement in trained singers than in other persons.

Three differences were observed in the hyoid movement of each of the girls during swallowing in upright position (Figure 2): (1) There was a greater range of displacement in *B*, (2) hyoid elevation started earlier in relation to bolus descent in *B* and (3) *B*'s hyoid was moved cephalad and then drawn ventrally, whereas in *A* the entire displacement was in an oblique cephalo-ventrad direction.

In swallowing in supine position (Figure 3), the elevation of the hyoid in each girl began at the same stage of bolus descent, but there was again a greater range of motion in *B*. In this maneuver the total pattern of hyoid motion from the swallow preparatory position to the return to rest position was of an oval form compared to a linear form in *A*.

The greater range of hyoid motion and the differences in pattern of motion in swallow in supine position are seen as indications of immaturity of function in *B* similar to the lip and tongue deficiencies already noted.

Discussion

The relation of abnormalities of form and motor function of tongue and lips to dental incisor displacement

and malocclusion has been the subject of much study and literature report (*10, 25, 26*). The combination of abnormalities, which is referred to as tongue thrusting, has been variously attributed to genetic, psychological or neurological mechanisms; but the final determination of the etiology has not been made. This abnormality is here reported in one of a pair of monozygotic twins who has retained abnormalities of the mouth area while otherwise developing normally. It was believed that study of a monozygotic twin pair would make it possible to minimize genetic factors as necessarily contributing to all cases of tongue thrust. That genetic factors do not determine all variables in monozygotic twins was indicated by Neel and Schull (*12*), who stated that dissimilarity between pairs of monozygotic twins must be caused by the action of environmental agencies, either *in utero* or postnatally. Kallman (*9*), however, noted that there may be a genetic factor contributing to dissimilarities in identical twins because cytoplasmic differences may affect the genes. The variation of opinion expressed in these two references must be considered in the interpretation of the present study; but it should be noted that had the twins been dizygotic, the evidence would still point to environmental rather than genetic influences.

The only difference between the twins that can be explained as part of the twinning process is the mirroring of the open bites and the cross bites. Symmetry reversal in identical twins has been discussed in the literature in connection with conjoined twins (*11, 13, 16, 17*). Newman (*14*) suggested that in twins in whom there is no mirroring the separation of embryonic primordia occurred before the establishment of asymmetry between the two sides of the original single embryo. Rife (*19, 20*) found, however, that mirroring of handedness occurs more often in dizygotic than in monozygotic twins, and suggested that mirroring of bodily structures may depend on the genotype of the twins rather than upon the stage of development at the time of separation of the embryos. Mirror reversal does not account for *B* having a more severe open bite than *A*.

In *B*, tongue thrusting offers the best explanation of the severity of the malocclusion, and it is felt that the tongue thrusting is the result of faulty muscular control and coordination impairment. It has been mentioned that *B* presented various indications of anomaly and immaturity of development: difficulty with respiration, umbilical hernia, angioma, immature relationship between nose and maxillary lip, and a soft, infantile-shaped tongue. It is concluded that the tongue thrusting and the deficient function of the upper lip and of the hyoid suspensory musculature are indications of lack of neuromuscular maturation and are etiologically related to the other problems.

In *B*, tongue pressure during swallowing, combined with tongue pressure against the teeth at rest, and the laxness of the lower lip may have resulted in the migration of the maxillary incisor teeth ventrad. From the various examinations it was concluded that the tongue exerted its greatest pressure against the teeth during the act of swallowing. That greater pressure was exerted at that time was suggested by the observation that the tongue protruded beyond the incisors (Figure 1). Also, activation of the lingual muscles during swallowing would be expected to give the tongue a firmer body, thus increasing its influence on the teeth. The immature form and large size of *B*'s tongue may

also have contributed to its protrusion between the incisor teeth at rest. However, the lack of trauma to the mucosa of the tongue from contact with the teeth suggested that this constant pressure was not excessive.

It was not possible to obtain a biopsy of the tongue of either girl for histological examination; but the softness of *B*'s tongue suggested a deficiency of connective tissue, and the broad flat shape of her tongue indicated a deficiency of the intrinsic tongue muscles, especially of the transversus linguae. Thus, the tongue presented a probable combination of structural defect and muscular impairment in coincidence with a lack of maturation of other structures.

Some tongue pressure may also be exerted during speech in that *B*'s tongue protruded farther than *A*'s on the [θ] sound, and she was observed to produce [s] and [z] with her tongue tip deviated from the midline to the area of the open bite. However, any tongue-on-teeth pressure thus produced was probably incidental, compared with that exerted during swallowing and rest, because the teeth were parted for [θ] and the tongue did not protrude between the teeth on [s] and [z].

Some orthodontists have explained the etiology of tongue thrusting in terms of habit resulting from thumb sucking. Ray and Santos (*18*) stated that some tongue thrusting is an acquired habit, but they also felt that it is sometimes associated with a hyposensitive palate. In the latter instance, the sequence of events in deglutition is disturbed, and the tongue compensates for this change. They wrote that in such instances macroglossia results from hypertrophy of the muscle fibers of the tongue because of the excessive function.

Rogers (*21, 22*) noted that an open bite associated with tongue thrusting is seldom seen in children having deciduous dentition. He suggested that tongue thrusting may develop as a habit from the use of the tongue to wriggle loose teeth at the time when deciduous teeth are being replaced by permanent teeth. Whitman (*28*) proposed that tongue thrusting may develop from the improper use of the tongue in bottle feeding or from thumb sucking. He said it occurs during deglutition.

In an electromyographic study of normal subjects and of patients with distoclusion, Schlossberg (*24*) found a direct correlation between the activity of the suprahyoid musculature and severity of malocclusion. Such activity was minimal in normal subjects. Thus, his report presented findings of improper musculature activity related to a second type of malocclusion.

Thumb sucking can be excluded as a factor in the severity of the malocclusion of *B* because the other twin, who had the less severe open bite, had been the more persistent thumb sucker. From a consideration of the psychological reports, it was apparent that, although both twins were within normal limits emotionally, the girl who thrusted her tongue was the better adjusted of the two. This adjustment indicates that neurosis did not contribute to the tongue thrust in *B* and would also tend to discredit any parallel between tongue thrusting in *B* and thumb sucking in *A* as being symptomatic of psychological problems. That such a parallel does not exist is suggested by the discrepancy between the time spent in tongue thrusting by *B* and thumb sucking by *A*. The latter does not suck her thumb for long periods, while *B* may be thrusting her tongue a large part of the day.

Tongue thrusting is of concern to speech pathologists. Although Berry and Eisenson (*4*) and Westlake (*27*) referred to tongue protrusion as a problem that sometimes interferes with the acquisition of acceptable speech in persons with cerebral palsy, it was not possible to find explicit references to tongue thrusting in the literature of speech pathology.

Palmer (*15*) approached the problem when he noted that in open bite the tongue generally protruded between the teeth with a consequent distortion of [s] and [z]. He also noted that cross bite, lateral open bite and at times medial open bite tend to be accompanied by a single or double lateral [s]. He stated that in such cases tongue movement may interfere with orthodontic treatment.

However, Froeschels and Jellinek (*8*) stated that they do not believe tongue movement in lisping contributes to malformations of the mandible or dentition because the mandible is lowered, making room for the protruding tongue. They also stated that they do not believe that abnormal dental alignment is responsible for lisping. Beebe and Kastein (*3*) described tongue protrusion in lisping as invariably of psychological etiology. Their description of this phenomenon indicated that the tongue could exert some pressure on the teeth during speech.

Whether or not tongue thrusting in speech contributes to the malalignment of the teeth, it appears that it may cause lisping when it interferes with tongue control in speech and may cause malocclusion when it affects tongue placement in swallowing or at rest. All aspects of the tongue thrust problem are in need of research attention, and work in that area can be expected to lead to findings pertinent to speech rehabilitation. The references by Rogers (*21, 22*) may be of special interest to those employed in speech therapy.

Summary

Comparison is made of a pair of female monozygotic twins, one of whom presents the syndrome of tongue thrusting, open bite and articulation defects. The subjects are compared by means of speech, psychological and physical examinations supplemented by radiographic and photographic procedures. It is concluded that the form and function of the lips, tongue, and adjacent structures of the pathological subject were distorted by moderate motor disability and that this malfunction contributed to the severity of the open bite. Psychological maladjustment, resulting in learned habits of tongue misuse, is excluded as an etiological factor.

A method for evaluation of disorders of motor function of the oral cavity and pharynx is described, and its use in diagnosis and research is suggested. The type of tongue thrusting described is felt to be amenable to motor training supervised by the speech pathologist or therapist.

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Dysarthria In Cerebral Palsy

Mary Clement

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Although the problem of dysarthria in patients with cerebral palsy has long been recognized, little has been written of the details of this kind of speech disturbance in this group of patients. The present study describes in detail the deficit in phonation, respiration and articulation in patients with cerebral palsy and suggests a physiologic interpretation for this deficit.

Selected for analysis were 20 patients, ranging in age from three to 12 years, who could be divided into two clinical groups: (1) patients with infantile spastic quadriparesis and (2) patients with congenital bilateral athetosis uncomplicated by the presence of spasticity. For facility of discussion spastic dysarthria will be used to indicate the speech difficulty in the patient with spastic quadriparesis, and athetotic dysarthria to indicate the speech difficulty in the patient with bilateral athetosis.

Although slowness and indistinctness of speech were common to each group, and there appeared to be certain common physiologic factors accounting for the dysarthia in both groups, closer analysis revealed differences in the speech deficit. The dysarthria will be discussed as related to phonation, respiration and articulation; but it is, of course, clear that speech is an integrated and coordinate process and involves all of these aspects in addition to others.

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Analysis of Speech in Cerebral Palsy

Phonation. Phonation refers to the production of voice by the vocal cords. During phonation the vocal cords are approximated and the pressure of air from the lungs sets them into vibration to produce voice sounds. Control of the position and tenseness of the vocal cords by muscular activity influences the pitch, intensity and quality of the voice. In spastic dysarthria the pitch is generally high with a monotone in any given range. The intensity of the voice is weak and forced which may be partly related to the force of the breath stream. The quality is breathy and forced with a particularly nasal resonance. The duration of open vowels is short, requiring additional inspiration for each sound. There is fair smoothness to the voice; but the voice soon diminishes, and there is broken phonation due to a need for more breath. In athetotic dysarthria there is basically a low pitch with sudden uncontrolled rising inflections. The intensity of the voice again is forced and perhaps weak, but there are varia-

tions from loud to soft which appear out of 'voluntary' control. Voice quality is throaty and forced, suggesting a large amount of pharyngeal resonance. The duration of open vowels can be more sustained than in pure spastic dysarthria, but is wavering. Vocal tone is not smooth flowing.

Respiration. Respiration is the process which provides the source of energy for the production of speech sounds. During this process air is drawn into the lungs so that it may be forced out under pressure. The pressure of air against the vocal cords sets them into vibration and produces voice. An analysis of respiration during speech in the two groups of patients reveals again certain differences. In spastic dysarthria there is a shallow inspiration and forced expiration. In athetotic dysarthria the inspiration again may be shallow, but it may differ at times and seems essentially uncontrolled. Expiration again in these patients is forced, but seems more uncontrolled, and reveals sudden bursts of breath. The rhythm of respiration in a patient with spastic dysarthria is usually spasmodic or broken, often interrupting the flow of speech. In the bilateral athetotic there may be jerky and uncontrolled rhythm, although it is usually continuous.

Articulation. Articulation refers to the modification of the vocal tones by the tongue, lips and soft palate in order to produce vowels and consonants. In spastic dysarthria the tongue at rest is generally flattened and pulled slightly back from the teeth. In the patient with bilateral athetosis the tongue may show essentially the same position at complete rest, but often shows some movement, generally termed peristaltic. In both groups of patients there is a difficulty in producing lingua-dental sounds [θ] and [ð] related to a difficulty in protruding the tongue. However, the patient with athetosis may learn to protrude the tongue, but has difficulty in maintaining this tongue protrusion. Again in both groups, the alveolar sounds [t], [d], [n], [l] are difficult to perform, but in general the athetotic dysarthric can learn them slightly better than the spastic dysarthric. The fricatives and affricates [s], [z], [ʃ], [ʒ], [tʃ] and [dʒ] are difficult sounds for both groups of patients. In spastic dysarthria breath control is also a factor. The athetotic patient has difficulty with these sounds also, but can produce them slightly better because of greater facility of breath control, forward tongue movement, lip reading and velopharyngeal closure.

The movements of the lips in patients with pure spastic dysarthria and in double athetosis are rather different. At rest the spastic dysarthric may reveal a thin lip line with the corners retracted. The same position may occur in the patient with double athetosis, although often the lips at rest are more rounded, and frequently an alternation of posture between pursing and parting of the lips is seen. Labial sounds [p], [b] and [m] are difficult in both groups because of the need for pursing of the lips. They are, however, more easily learned by the patient with bilateral athetosis.

Raising of the velum to produce the stop consonants [p] and [b], [t] and [d], [k] and [g] is extremely difficult in spastic dysarthria and is also difficult in athetotic dysarthria, although in the latter this can be accomplished, but seems out of control, and success may not accompany every attempt.

Some other aspects of related movement have also been noted in these

patients. The patient with spastic dysarthria has difficulty in blowing because he can't purse the lips, can't make velopharyngeal closure and has poor control of the breath stream. These patients also have difficulty in sucking because of inability to purse the lips, difficulty in tongue movement and in inspiration. The athetotics have similar difficulties, but not so marked. The ability to purse the lips is present, but cannot be maintained for a sufficiently long period of time.

Discussion

The ability to produce speech requires coordinated muscular activity of essentially the same nature as the ability to move a limb. It therefore would be appropriate to examine more carefully some of the data regarding the neurophysiologic nature of deficient use of the limbs in spastic syndromes and in athetosis, for such studies may shed more light on the physiologic nature of dysarthria in the same syndromes.

Twitchell (*6*) has recently analyzed the physiologic mechanisms contributing to the defective use of the hand in infantile spastic hemiparesis. He pointed out that, as the hand neared an object to be grasped, the fingers and thumb extended and abducted widely and that frequently there also occurred a concomitant extension of the wrist. The same response could be elicited reflexly by contactual stimulation of certain parts of the hand and was shown to be identical to a reaction called the avoiding response by Denny-Brown (*1*, *2*). This exaggeration of the avoiding response was shown to cause a certain ataxia of the upper extremity, making it difficult for the patient to close the fingers around an object and also contributing prominently to weakness of the grip. Similar exaggeration of the avoiding response has also been noted in patients with infantile spastic diplegia and quadriplegia, then contributing to the deficit in both upper limbs.

In adults with spastic hemiplegia Twitchell (*5*) pointed out that the recovery of voluntary motor function occurred as an adaptation of stages of increasing complexity of reflex integration, the details of which are irrelevant here. Important to our thesis, however, is the observation that dexterous voluntary movement of the hand followed upon the return of the grasp reflex of Seyffarth and Denny-Brown (*3*), a response in which flexion of the fingers could be reflexly triggered by a deeply pressing, distally moving contact stimulation to the palm of the hand. Prior to the return of this response, voluntary use of the hand was extremely limited. In a sense the grasp reflex is a facilitating mechanism, and both Denny-Brown (*1*) and Twitchell (*6*) have related the deficient use of the hand in spastic syndromes to a depression of the grasp reflex by a prepotent avoiding response.

Denny-Brown (*1*, *2*) has pointed out that different regions of the cerebral cortex subserve positive exploratory reactions while others subserve negative withdrawal reactions. The positive reactions are the instinctive groping and grasping reactions and the negative are the instinctive avoiding reactions. Each of these reactions has its adequate stimulus, contact or visual, and normally these reactions are in equilibrium with each other. A lesion abolishing one type of reaction, however, will release its opposite. Thus a frontal lobe lesion abolishes the avoiding reactions in the opposite limbs and releases exaggerated grasping responses to contact stimulation. In such a patient contact stimulation

of the lips causes pursing of the lips and protrusion of the tongue (instinctive sucking response) and may even induce exploratory movements of the head and eyes. A parietal lobe lesion on the other hand abolishes the grasping responses and releases the avoiding responses in the opposite limbs. Associated with these limb reactions may be retraction or a parting of the lips and adversive movements of head and eyes.

In a recent analysis of the motor deficit in bilateral athetosis, Twitchell (*7, 8*) has shown that athetosis, that is, the instability of posture of the hand or foot, occurring as a periodic flexion and extension of fingers or toes, could also be elicited by certain contactual stimuli. Thus, contact to the dorsum or outer edge of the hand or foot could cause extension and abduction, and contact to the medial border of the palm or sole could cause flexion and adduction. These two reactions are indeed the avoiding response and the grasp reflex; and athetosis, then, occurs, as Denny-Brown (*2*) has also pointed out, because of an unstable equilibrium or conflict between the grasp reflex and avoiding response. We have also been able to demonstrate in patients with bilateral athetosis that the periodic involuntary pursing and parting of the lips are related to similar mechanisms which can be reflexly elicited. Thus, pursing of the lips may be elicited by contactual stimulation moving down over the medial part of the upper lip. Parting of the lips or retraction of the corners of the lips may be elicited by a moving contact stimulation of the lower lip.

It is interesting to note that Sherrington (*4*) was able to obtain antagonistic reflex movements of the jaw in the decerebrate cat. Reflex closing of the jaws could be elicited either by eliciting reflex swallowing or by stroking the dorsum of the tongue tip. Opening of the jaw could be obtained by stimulation of the gums bordering the teeth or the anterior hard palate.

In our patients with pure spastic quadriparesis, the exaggeration of avoiding response of hands and feet was clear and it was not possible to obtain the grasp reflex. In the same patients contact stimulation to the lips would produce retraction of the corners of the mouth or parting of the lips. In these patients we have not been able to obtain pursing of the lips on stimulation. In the patient with bilateral athetosis, however, both responses could be obtained, again not only of the extremities, but also of the lips as stated above. We have not been convinced of obtaining protrusion of tongue associated with pursing of the lips or retraction of tongue with parting of lips; but on contact stimulation of the lips, tongue movements oftentimes occurred.

In general, one would be inclined to attribute the dysarthria in a patient with spastic quadriparesis to the spasticity and consequent stiffness of the peripheral speech musculature. This may be a factor particularly in relation to the relative monotone in spastic dysarthria. Nevertheless, and particularly in regard to articulation, other factors are probably of more importance. An analogous situation occurs in the motor deficit of the limbs in spastic syndromes. The deficit has often been ascribed to spasticity and consequent stiffness of the parts. Twitchell (*6*) has shown that, particularly in regard to use of the hand, it is not so much the spasticity which militates against dexterity, but rather the over-active avoiding response. Indeed, far greater deficit in grasping and other use of the hand

may occur in patients with minimal spasticity, yet facile avoiding responses, while patients with greater spasticity, yet minimal avoiding responses, use the hand with greater dexterity.

We would suggest that the groping and avoiding responses which can be demonstrated in the hand or foot and which normally are in equilibrium with each other have their analogues also in the speech mechanisms. As different pathologic states have been shown to result in an upset of this equilibrium which affected the use of the extremities, it appears that the speech mechanisms may be affected in a similar manner. We suggest that positive responses consist of pursing of the lips, protrusion of tongue and raising of the velum, while the opposite or negative responses consist of parting of the lips, retraction of the tongue and lowering of the velum. Thus, in spastic dysarthria the positive oral responses are clearly depressed with corresponding exaggeration of the negative oral responses. We would suggest that it is the overactivity of these negative oral responses which is primarily responsible for the deficit in speech of these patients.

In like manner we believe that the 'involuntary movement' of athetosis is not primarily responsible for athetotic dysarthria. A previous study (8) has shown the difficulty of separating the involuntary from the voluntary aspect in athetosis, and it is clear that no movement occurs at all with the patient at complete rest. All motor function in patients with bilateral athetosis is biased toward withdrawal (avoiding) with periodic alternation, however, of the opposite reaction, thus producing 'athetosis.' The dysarthria in the patient with double athetosis appears to be primarily related to negative oral responses as in the patient with spastic quadriparesis, yet with occasional alternation with the positive responses accounting for the apparent differences. In athetosis the groping responses are not depressed, but remain in unstable equilibrium with the avoiding responses. Thus the patient with athetosis may learn to speak more readily than the patient with spastic quadriparesis, but still will be hindered by the difficulty in controlling the two antagonistic reactions.

Conclusions

The dysarthria associated with spastic quadriparesis and bilateral athetosis has been described. It appears that the speech mechanism has positive and negative reactions analogous to the groping and avoiding responses of the limbs and that similar alteration of these responses in these syndromes provides a physiologic explanation for associated dysarthria.

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Significance Of Problems Of Conditioning In GSR Audiometry

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Galvanic, or electrodermal, audiometry has become a useful tool for purposes of both clinical evaluation and research inquiry. The procedure has various limitations which are probably explicit in the electrophysiology involved and in the environment of the test. One of the limitations oftentimes expressed by some who use the procedure centers in the statement —or complaint—that not every person under test, particularly some of the children, can be conditioned. This is not infrequently interpreted to mean that the procedure is inadequate as a tool for testing auditory function. The burden of the present discussion is the assertion that lack of conditioning may well be a positive, not a negative, finding in the differential appraisal of the status of hearing.

Conditioned Response

As a means of observing responses to acoustic stimuli, electrodermal audiometry was originally developed around a modified Pavlovian conditioned response. With the continued pairing of pure-tone stimulus (CS) and shock stimulus (UCS), in due time the tone alone is expected to produce the same kind of response that is typically produced by the shock. Thereafter, the UCS is employed only as a reinforcing agent to offset inhibition or adaptation. Accordingly, suitable or effective conditioning is considered necessary in order to achieve a measurement of auditory function by reasonably standard audiometric techniques.

Lack of Conditioning

There are several possible reasons why conditioning might not take place within a reasonable period of time. Some of these are: cornified tissue in the electrical field at the point of pick-up; an inhibited or otherwise inadequate sudomotor system; an unmyelinized or otherwise undeveloped sympathetic nervous system; a biochemical imbalance which interferes with psychophysiologic relations; and so on. These are all operational factors, primarily physiological, which may interfere with sensory function, and the effect of most of them can be observed quite readily in terms of the integrity of instrumental response. In gross diagnostic terms,

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these things may be associated with various kinds of CNS maldevelopment or injury, or to a specific sensory deficit, such as an undeveloped or damaged perceptive auditory system. It is with these diagnostic categories that this discussion is primarily concerned.

The facts of inadequate conditioning may be observed in many ways. They may involve details of CS-UCS time-intervals, the nature of the CS itself (there are many observable differences in the use of steady-state, pulsed or modulated tone), time-lag, extinction, adaptation, fatigue, *etc.* Sometimes these facts can be related to different causal or developmental features of a communicative problem. Many premature children, for instance, are 'slow jellers' in most regards, and this tendency can be discerned in the detail of the galvanic pattern seen with some of these children. It would be valuable to know what caused the prematurity. Many motor-palsied children produce a galvanic picture clearly relatable to the muscular status, and one must insert the test-stimuli in between times, so to speak. By the very nature of their problems, many aphasoid children have inhibited sound, and the galvanic test becomes a painstaking process of disinhibition. There are many other relationships to be observed or derived from a variety of systemic symptoms.

Relatable Responses

Not uncommonly, relatable responses are observed in the structured situation of testing in a sound-field, and in the ordinary circumstances of daily living. There are children who respond clearly once, but only once, to each of a series of sound-stimuli; children who consistently respond to stimuli of moderate intensity, but without a vestige of localization; children who clearly respond to 'little' sounds—squeaky toys, a modulated noise, a *st-st-st*—but not to intense sounds; children who do not react to a loud call, but go to mother with a hand out for money when the tinkle of the ice-cream-man's bell comes from two blocks away; children who pay no attention to a shout, or a doorbell, but are curious about the twittering of birds on a branch out of sight from the kitchen window. A wide variety of disparities in responses, much like these, can quite readily be observed in the circumstances of careful GSR audiometry. Naturally, there are involved in all of this various aspects of conditioning and inhibition.

'Law' of Variability

Many students of visual and auditory perception, and of learning and other aspects of behavior, have made clear, directly or by implication, that interference with normal CNS function commonly produces a picture of variability. This is in sharp contrast to the statute of 'sameness,' expressed many years ago in the philosophy of behavioral psychology as the touchstone of reflexive behavior and of learning. We must expect and get 'sameness' in order to develop a reflex. Baseball players must learn this early in their careers, or they are picked off by bean-balls. With all due apologies to the philosophers of general semantics, it is the time-after-timeness of stimulus and response that helps us learn.

Too often overlooked, at the level of clinical differentiation, is the significance of various kinds of central auditory problems (dysacusis) in terms of variability. This applies when

one takes a case history from observant parents, when he tests in a sound-field, and when he does GSR audiometry. If one looks, not for evidence of auditory response dependent upon conditioning, but, rather, for variability in the subject's auditory behavior, then the lack of a conditioned response (in galvanic testing or in daily behavior) in the presence of sporadic or occasional responses is not a deterrent, but because a positive finding, indicative and useful. What is at stake here is that one is no longer measuring responses in terms of a quantified graph of intensity and frequency; one is observing responses wherein the use of decibel notation and a preconception of frequency-display are essentially valueless. One is trying to discern not *how much* the subject hears, but something about *how* he *hears*. Sometimes only pitch is involved; sometimes, only loudness; sometimes, both.

Some Typical Cases

Various kinds of useful, if contrasting, evidence may be adduced from a consideration of the responses of five different children with five different problems. These are not intended to be inclusive nor exclusive; only illustrative. Obviously, all the factors relating to the test-situation and to the interpretation of responses do not have equal weight.

Suppose one is testing an 18-month-old child, who had a normal auditory orienting reflex in early infancy, who has developed within normal range in all regards except language and speech, without illness and without any behavioral symptoms of note. The family reports what appear to be occasional responses to sound, and this is corroborated by clinical observation in the playroom and in the controlled sound-field of the test-room. There are various galvanic responses to test-tones across a wide frequency-range at both intense and minimal levels. Occasionally, overt responses precede or accompany the galvanic changes. There are no series of consistent, conditioned responses.

Another child, somewhat older—say, 30 months—has the same background and status, except that she did not have a clear orienting reflex in infancy. She has clearly begun to lipread, but she, too, does not develop a conditioned response, except in the sense that when she is alerted with a fairly intense sound, 80-85 db, she will respond down to relatively normal minimal acuity levels. There is no carry-over from tone to tone, however, and no response can be elicited by an ascending technique until the signal is at a level of 80 db.

Another child, with a similar background and status, does not respond to intense stimuli, but responds quite readily to a quiet stimulus—25 db—and is thereafter readily conditioned and continues to respond throughout the pure-tone range at 10-15 db.

A fourth child is different. He clearly responded to sound in early infancy, babbled normally, has a pleasant, modulated voice, does not attempt oral communication in any form, and pays little attention to environmental sound at any level. He does not respond to a steady-state tone, but does to a pulsed tone. After prolonged pairing of the CS and UCS, he is well conditioned and responds well within normal range. Before the test is finished, there are consistent overt as well as galvanic responses.

A fifth child, aged two years, responds immediately to 75 db at 500 CPS, is well conditioned after 8-10 pairs of stimuli, and responds consis-

tently with a sigmoid curve at the level of a severe hearing impairment.

Here are five variations in the status of conditioning. It is perhaps worth emphasizing that GSR audiometry in and of itself is usually not a conclusive diagnostic tool; employed in conjunction with all the other facts and observations available, it is indicative and corroborative. Retest, as part of reassessment, is always indicated with infants and young children. These observations of the five children suggest that the first three have different aspects of central auditory impairment (dysacusis); that the fourth has an aphasoid problem with auditory problems beyond what may be explained as inhibition; and that the fifth has a classical peripheral sensory-neural deficit. Of the first three, one does not know precisely how they hear, only that they respond to sound under certain conditions, but with variability and inconsistency.

Generalizations

In the course of many years of observation of GSR conditioning, it has been found that most children with peripheral impairments like sound that reaches them, are readily conditioned and enjoy the experience of listening. Most aphasoid children without impaired hearing seem to require much more time for conditioning, but come through fairly consistently once the learning process by which the reflex is established has been accomplished. On the other hand, relatively few children with presumed impairment of the high-central pathways (the cortico-thalamic tracts) can be satisfactorily conditioned. Many, whose trouble apparently lies lower down in the brain-stem can be. Those whose problems involve the organic listening circuit, as well as the afferent pathways, seem to be indefinitely variable. There are many children with more diffuse disorders, involving a combination of central auditory disorders as well as aphasoid problems. They frequently demonstrate the variability of those who have only the central hearing problem without a basic language disorder.

All this seems to be reasonable, if one is looking for information about auditory function that is different from a classical measurement in decibel notation. When the problem is such that variability—in terms of frequency, or intensity, or both—is involved, the basic stuff of which a conditioned reflex is made is missing. Most of these states of affairs can be observed with the use of bone- as well as air-conduction. These findings cannot in themselves describe a child (and essentially the same set of features applies to observations of adults), but they can and do serve as useful indicators of the nature of his problem, which then must be studied exhaustively in all aspects of development and behavior.

Speech Therapy In The Public Schools: State Legislation And Certification

Ruth Beckey Irwin

Before 1940, only nine states had legislation which permitted recognition of the speech handicapped child. The first state to enact special legislation for the speech handicapped child was Wisconsin (1913). Certification developed as state legislation provided laws which promoted interest and financial support for the speech handicapped child in the public schools.

In earlier articles (*1*, *2*, *3*), the writer reviews legislation and certification in the various states. Since the growth of speech therapy in the public schools has been so great during the last 15 years, a periodic review of changes and additions is desirable.

The following recent review of state legislation and certification in speech therapy for the public schools is presented for each state in alphabetical order. Obviously, some discrepancies may occur due to changes made between the time of reporting and the date of publication.

Information concerning state legislation and certification was secured from officials in state departments of education. Whenever possible, supervisors of speech programs were asked to supply the information.

Alabama

Legislation (1951). 'Any county or city board of education is hereby authorized to conduct special classes in the public schools for the training and education of handicapped children.' The interpretation of this law does not rule out children with speech and hearing disorders.

Certification. The teachers of handicapped children have the same requirements as the regular classroom teacher. However, reasonable concessions are made to certify teachers with specialized training and experience.

Alaska

Services are offered in some communities through the operation of the Alaska Crippled Children's Association chapters and of the Alaska Department of Health. Through the Alaska Office of Vocational Rehabilitation, services have been offered to adults, including diagnosis, consultation and therapy.

Arizona

Legislation (Homebound Program, effective 1957). A letter from Dr. Lillian B. Johnston, Curriculum Coordinator, Department of Public Instruction, states:

> Either by itself or in cooperation with another district or districts establish departments for the education and improvement of students affected with partial or total blindness, deafness or defective speech and purchase the necessary supplies for such departments.

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> Such programs shall conform to conditions and standards formulated by the board of directors of the Arizona School for the deaf and blind and approved by the State Board of Education.

Certification. Certificate valid for a speech therapist in the public schools requires (1) master's degree or 30 hours work toward the advanced degree requirements, (2) specialization with 15 hours of graduate work and eight hours of clinical or field experience in speech correction.

Arkansas

Legislation (1949).

> Any child of educable mind . . . between the ages of six and 21, who by reason of defective hearing, . . . speech . . . and who cannot be safely and adequately educated in the Public Schools. . . . The State Board of Education shall make the necessary rules and regulations in keeping with the provisions of this Act. . . .

State subsidy for a full-time speech-correction program with one speech therapist may not exceed $1500 for the school year.

Certification. Certification requirements, pending final action of the State Board of Education, are (1) bachelor's degree with 48 hours of general education, (2) specialized preparation with 18 s.h. in speech fundamentals (maximum of three hours accepted, voice science, phonetics, hearing, speech correction minimum of six s.h. required), (3) practicum, 200 clock hours, (4) courses in psychology including human growth and problems of adjustment (six s.h.), (5) courses in education (six s.h.). A total of 36 s.h. is required in specified areas.

California

Legislation. In 1957, a bill was passed setting minimum salaries for teachers at $4200. A single fund for special education instead of separate funds each for physically handicapped, mentally retarded and severely mentally retarded is provided. The speech-defective child is considered as being physically handicapped under the interpretation of the laws in California.

School districts have the authority to provide remedial assistance on an individual basis to preschool speech handicapped children down to three years old. Provision is also made for mentally retarded children in speech correction classes.

Certification. An applicant shall have completed a program including the following minimum requirements: (1) a valid regular teaching document of the kindergarten, primary, general secondary type, (2) 24 s.h. work in an acceptable university, including (a) general area, education of exceptional children, guidance for the handicapped, speech development or speech correction, and teaching or one year of experience in the area of specialization, (b) special preparation in speech correction and audiology.

Colorado

Legislation. The School Finance Act provides for reimbursement up to 80 per cent of therapist's salary. There is no legislation relative to establishment of services in speech and hearing.

Certification. The Standard Certificate for Speech Correctionists requires that the holder (1) qualify for the Colorado graduate teacher's certificate, (2) have at least one year's successful teaching of normal children, (3) hold a baccalaureate degree from an institution approved by the state

department of education, (4) have six and two-thirds s.h. in basic areas, (5) have 12 s.h. in specialized speech correction courses, (6) have three and one-third s.h. in audiology, and (7) have eight semester hours in related areas, such as mental hygiene and testing.

Connecticut

Legislation.

> Any child of educable mind, between the ages designated (four to 21 years) who, by reason of being crippled or otherwise physically disabled, except those of defective hearing or vision, and who cannot be safely and adequately educated in the public schools with normal pupils shall be considered a physically handicapped child.

The Attorney General of Connecticut ruled that children with speech and hearing problems shall be considered physically handicapped and must have a program adequate to meet their needs. The state reimburses the local community for two-thirds of the cost of instruction and medical diagnosis up to $300 for each child. If the child is educated in his home community, $200 is allowed, but if he is taken to another community, $300 is allowed for expenses.

Certification. A provisional certificate in speech correction and hearing conservation will be granted to a person holding a bachelor's degree from an approved institution with (1) 12 s.h. in speech correction, (2) six s.h. in practice teaching of speech correction, (3) seven s.h. of hearing conservation, and (4) 12 s.h. of education. Curriculum is not to include less than 45 s.h. of general education. The standard certificate will be issued when the teacher has taught three years on a provisional certificate, is recommended by a superintendent of schools, and has completed a master's degree with 15 s.h. in speech correction and hearing conservation beyond the bachelor's degree.

Delaware

Legislation. An act requires the reporting of handicapped children in every school district and requires special training for them. These children are defined by law as 'every child between the ages of six and 16 years, who is seriously retarded in his or her school work, or any child who, because of apparent physical or mental handicap, is not being properly educated or trained.' Services for the hard-of-hearing and speech-defective children are permitted under this law. The state reimburses the local district for the total salary of each therapist, as well as for transportation, supplies and equipment.

Certification. 'A certificate required for the practitioner of speech and hearing therapy' may be granted to one who has (1) 18 s.h. in educational orientation, (2) 18 s.h. in specialized speech and hearing courses and (3) 12 s.h. in related courses.

District of Columbia

Legislation. None was reported.

Certification. Requirements for a license in speech correction include: (1) bachelor's degree, (2) not less than 30 s.h. in the major field and (3) not less than 24 s.h. in professional education courses including practice teaching.

Florida

Legislation. (1941) Children with articulatory, organic, nervous, or other speech irregularities may be en-

rolled in grades and given supplementary instruction under an itinerant teacher unit. A qualified instructor will teach lipreading as well as corrective speech if after careful survey these two types of services are necessary. The State reimburses the local school districts for the salaries of the speech therapists.

Certification. Teacher Certification in Special Education requires: (1) a background of at least one or two years of teaching experience with normal children, (2) a graduate certificate and (3) prescribed courses in speech correction (12 s.h.) and courses in two of the following fields: hearing, vision, physical disabilities and personality.

Georgia

Legislation. A general law provides for the education of the speech handicapped:

> Teachers may be allotted local units to provide program of education for adults, pre-school children, and exceptional children at state and/or local expense, when such programs have been approved by the State Board of Education.

Certification. The Teachers Professional Four-year Certificate is the standard credential for teaching in the public schools of Georgia. The certificate is issued upon the completion of an approved professional four-year program designed for speech correction. The program includes: (1) general education (90 q.h.), (2) professional education courses (30 q.h.) in child development and practice teaching in the public schools in elementary education or speech correction, (3) related areas (15 q.h.) such as child psychology, mental hygiene, (4) technical courses in speech correction (32 q.h.).

Idaho

Legislation. A special education act is known as the 'Education of Mentally or Physically Handicapped Children Act.' The term 'handicapped child' shall mean

> any child between the ages of six and 21 years who is deemed to be educable who cannot be safely or adequately educated in the public schools because of physical or mental disability as determined according to diagnostic procedures established by the State Board of Education.

Certification. The state law provides that 'the State Board of Education shall determine the qualifications and program of instruction of teachers of handicapped children.' Qualifications for speech therapists are under consideration by a state committee at the time of this writing.

Illinois

Legislation. A special education law for exceptional children was revised in 1957:

> School boards of any school districts . . . may, subject to any limitations hereinafter specified, establish and maintain special educational facilities for one or more of the following types of children who are residents: . . . For speech defective children. 'Speech defective children,' for the purpose of this and subsequent sections, means children between the ages of three and 21 whose diagnosis by a certificated teacher meeting the requirements of the Superintendent of Public Instruction as a qualified speech correctionist indicates that specialized instruction would improve or correct the defects.

For each professional worker an annual sum of $3000 is reimbursable to the district.

Certification. Speech correctionists in Illinois must have a valid Illinois teacher's certificate and approval from

the Department of Special Education. A teacher of exceptional children may be certified in two ways: (1) he may possess any valid Illinois teacher's certificate and meet the required hours in education and psychology and the field of specialization or (2) he may obtain a limited state certificate for teachers of exceptional children with a major in the field of specialization. The limited state certificate is issued to one who has been granted the bachelor's degree from a recognized college and has certified evidence of having earned the following credentials from the approved training centers: (1) speech correction (23 s.h.), (2) clinical clock hours (200 clock hours with at least half in a school sitiuation), (3) hearing (six s.h.), (4) background areas (six s.h.) in measurements, guidance, teaching of reading and student teaching.

Indiana

Legislation.

> Special classes . . . shall provide instruction for any pupils who have a physical and/or mental disability which makes regular school room activity impractical or impossible, and who are not in attendance in any of the institutions of the state, but who, with the advantage of a special educational program, may be expected to benefit from instruction. Classes may be approved for children with physical speech defects. A school corporation may receive reimbursement for any special education class only if the teacher holds a special teacher's certificate appropriate for the special work . . . Reimbursement is 80 per cent of the cost in excess of educating normal children. . . .

Certification. Speech correctionists and hearing therapists (1) must hold or be eligible for the First-Grade, High School or Elementary Certificate, (2) have 30 s.h. in the following areas: phonetics, psychology of exceptional children, clinical psychology, mental measurements, remedial reading, public speaking, anatomy of ear and vocal mechanism, psychophysics of sound and audiometric testing, speech pathology (elementary and advanced), clinical practice in speech correction. To practice both speech and hearing therapy, the candidate must have a total of 40 s.h. in specialized courses in speech, hearing and psychology.

Iowa

Legislation. The law for the 'Education of Handicapped Children' is non-restrictive with respect to the kind of local program. The Special Education Division issues recommendations for the organization of local programs. School districts are reimbursed $3400 for speech and hearing therapists holding the bachelor's degree and $3600 for a therapist with the master's degree.

Certification. Requirements are currently being revised. These are the requirements now in operation for each speech therapist: (1) bachelor's degree, (2) 200 clock hours of supervised clinical practice, (3) 20 s.h. preparation in general education and (4) 30 s.h. specialization in speech and hearing and psychology.

Kansas

Legislation (1949).

> 'Exceptional children' means children who: (a) are at least six but under 21 years of age; (b) are educable to be determined by standards for educability established by division and (c) are crippled or hard of hearing . . . or have defective speech or cerebral palsy. . . . 'Special teacher' means a teacher who is qualified to instruct exceptional children as determined by standards established by the state department of public instruction and who is so certified by the state superintendent.

Certification (revised 1957). Basic requirements are common to all special education teachers: (1) a valid Kansas teaching certificate, preferably elementary, (2) a minimum of 36 weeks of successful service in a full-time paid professional experience prior to permanent approval, (3) general competencies to be acquired through eight to 12 s.h. of course work in the area of understanding of exceptional children, knowledge and skill in the techniques of counseling, and the understanding of the role of the special education teacher.

Additional requirements for speech and hearing therapists are: (1) a minimum of 12 s.h. in related areas such as clinical psychology, anatomy and physiology, (2) a minimum of 30 s.h. in speech and hearing courses (at least six s.h. in the area of hearing) and (3) 200 clock hours of supervised clinical practice, one fourth of which must be in group therapy situations.

Kentucky

Legislation (1948). The special Education Act authorizes services for children with impaired hearing and speech problems. Such children are classified as having physical defects.

> Physically handicapped children means children of sound mind between the ages of three and 21 years who suffer from any disability making it impractical or impossible to benefit from or participate in the normal classroom program in the public schools. . . .

Reimbursement is on the basis of excess cost not exceeding $275 for each child annually.

Certification. Speech therapists must have (1) valid teacher's certificate; (2) bachelor's degree, including 45 s.h. in general education; (3) professional education, including 12 s.h. from areas of child development, educational psychology, mental hygiene, organization of special schools, principles of elementary or secondary education and testing; three s.h. of directed observation and teaching in speech correction; and (4) minimum of 12 s.h. in special education courses from psychology of exceptional children (required), anatomy and physiology of ear and speech mechanism, clinical practice in speech correction, phonetics, speech correction and speech pathology.

Louisiana

Legislation (1950).

> The purpose of this act is to provide educational and other services for certain handicapped adults and for physically handicapped and other exceptional children . . . who cannot be adequately taught with safety and profit with normal children in the public schools. The State Department of Education . . . shall reimburse the Parish School Boards . . . the excess cost . . .

Certification (1956). Speech and hearing therapists are required to have (1) bachelor's degree; (2) valid, regular Louisiana certificate to teach normal children in elementary or secondary schools; (3) general requirements in special education for all teachers of exceptional children (12 s.h.; required: mental testing, child and/or adolescent psychology, psychology of exceptional children, arts and crafts); (4) professional training equivalent to that required for Basic Certificate in speech.

Maine

Legislation (1942). 'Educational services for physically handicapped children shall include the training of teachers, and the teaching services for . . . hard of hearing, defective speech . . .' Age limits are from five to 21 years. The state subsidizes to the ex-

tent of a maximum of $300 for each child over normal per capita cost for hearing conservation, speech reading and speech correction.

Certification. A letter from Mrs. Bertha W. Carter, Director of Education for Physically Handicapped Children, states:

> The scarcity of teachers in this field has made it necessary in some cases to accept teachers with less training. We hope eventually to make our state certification conform at least with the minimum requirements of the American Speech and Hearing Association.

Maryland

Legislation.

> It shall be the duty of the State Board of Education to set up standards, rules and regulations for examination, classification, and education of such handicapped children . . . the city (Baltimore) or counties . . . shall be entitled to receive, toward the cost of teachers, special equipment . . . therapeutic treatment, and transportation, an amount not to exceed 600 dollars (for each child annually).

Services for children with defective speech and hearing are permitted by this law. New provisions provide for the preschool education of handicapped children, '. . . The governor shall place in the state budget each year an item for the special education and training of handicapped children under six years of age.'

Certification. The requirements for the certificate for the speech therapist include: (1) completion of standard approved four-year college course with major in clinical speech, with 21 s.h. in speech and speech education (comparable to requirements for Basic Speech Certificate); (2) professional education courses, 18 s.h. in educational psychology, child psychology, mental hygiene, principles of teaching and eight s.h. of clinical practicum (at least 240 clock hours).

Massachusetts

Legislation. No specific legislation relating to speech improvement has been enacted. However, a recent bill (1957) provided a $500 differential for teachers of the deaf in the public schools to extend services to children diagnosed as congenitally aphasic. The bill grants complete educational benefits including transportation to and from school.

Certification. Requirements for teachers of speech and hearing handicapped (1956) are (1) bachelor's degree from approved university, (2) valid teacher's certificate in public elementary or secondary schools of Massachusetts, (3) minimum of 18 s.h. in speech and hearing specialized courses and (4) 12 s.h. in psychology (child development, guidance, educational tests and mental hygiene).

Michigan

Legislation. The general school laws provide broad authority to school districts enabling them to establish educational programs which will meet the needs of all their residents from nursery school through adult years. Maximum educational opportunity for exceptional children is designed by the laws. Legislation directs the superintendent of public instruction to prescribe requirements for diagnosis, selection of pupils, curriculum development, adequacy of methods of instruction, qualifications of teachers, conditions under which teachers are employed, territory to be served, necessary equipment, special services and reports.

The public act of 1957 for special education provides payment of

> . . . 75 per cent of the actual cost up to $4750 per full-time speech correctionist if the correctionist provides regular in-

> struction to 100 pupils in the district or combination of districts. In these programs, the pupil meets with the correctionist at least twice weekly for an average of 30 minutes each session. It is the usual practice to group children according to age for speech correction lessons.

Certification. Certification of teachers of exceptional children dealing with speech defects requires (1) state elementary or state secondary certificate; (2) bachelor's degree; (3) student teaching in specific field, four s.h.; (4) 15 s.h. of special education and related areas; (5) speech and hearing, 12 s.h. in basic and specialized professional content.

Minnesota

Legislation (1957).

> Every school district . . . shall provide special instruction and services for handicapped children of school age (five to 21) . . . Every child who is deaf, hard of hearing, blind, partially seeing, crippled or who has defective speech . . . so that he needs special instruction and services, but who is educable, . . . is a handicapped child. . . . The state shall pay to any school district . . . two-thirds of the salary of essential professional personnel, but this amount shall not exceed $3600 for the normal school year for each full-time person employed, . . . The state shall reimburse . . . for supplies and equipment . . . not to exceed $50 in any one school year.

Certification. Teachers of exceptional children are required to hold certificate in accordance with the regulations of the State Board of Education. A certificate for teaching in the elementary or high school requires 15 s.h. in speech correction, nine s.h. in audiology, and mental testing at any accredited institution, or bachelor's degree with a major in speech pathology.

Mississippi

Legislation. The purpose of the special education law 'is to provide competent educational services and equipment for exceptional children . . . for whom the regular school facilities are not adequate.' Any child of trainable mind under 21 years of age will qualify under the special education act. Those who cannot pursue regular class work due to defective hearing or speech are interpreted to be included in this provision. The law provides for payment of the excess costs in the education of the handicapped in speech and hearing.

Certification. All teachers of exceptional children specializing in speech therapy must have: (1) 48 s.h. of general education; (2) professional education, 18 s.h. (six s.h. permitted in methods and directed teaching in the area of specialization); (3) specialized education, psychology of exceptional child, three s.h.; speech disorders, 12 s.h.

The teacher of hard of hearing children must have 12 s.h. in hearing courses: audiology, lipreading and auditory training. Mississippi has several types of certificates, allowed for different periods. The class A certificate which has been outlined above is valid for five years. Among the electives accepted toward certification of special education are mental hygiene, remedial reading, psychological testing, clinical psychology, special education techniques, child welfare, abnormal psychology, behavior problems, psychology of personality, personal adjustment, phonetics and occupational guidance.

Missouri

Legislation. The state includes the speech handicapped under 'or otherwise handicapped.' The speech teacher in consultation with the classroom teacher and administrative officer of

the school determines eligibility of pupils for speech classes. The case load should not run over 150 cases per week. At least one afternoon a week is reserved for home calls or office appointments. A record must be kept for each child enrolled in speech correction. The school districts maintaining speech correction classes which are under state approval receive state aid not to exceed the difference between the average per capita cost of instruction, services, supplies and instructional equipment for normal children of similar grades. In no case shall the average per capita reimbursement exceed $20 for the speech defective during any one year.

Certification. The speech correctionist who works in the state of Missouri should have: (1) bachelor's degree and a valid teacher's certificate; (2) a background of courses in speech and hearing comparable to those required for the Basic Speech Certificate, except for clinical practice (only 100 clock hours required); (3) courses in education (methods and organization); and (4) personal speech habits in voice and diction which meet an acceptable standard.

Montana

Legislation. 'Special education is that type of education requiring special facilities or instruction because of physical or mental deviation from the average on the part of some children.' Law is permissive and allows local school board to assess needs of children. Speech defective is listed as physically handicapped. A state reimbursement plan is in effect.

Certification. Speech therapists are expected to (1) hold valid Montana elementary or secondary certification and (2) meet course requirements specified for Basic Speech Certificate (ASHA).

Nebraska

Legislation.

> Special education shall mean the provision of educational experiences and services through the use of special facilities of special adaptive classrooms for the physically handicapped. Physically handicapped children shall mean all children of sound mind who are residents of Nebraska, who are below the age of 21 years and who are crippled, partially seeing, hard of hearing, defective in speech, . . . or otherwise physically handicapped.

The education of the handicapped is reimbursed to the local school district on the basis of excess cost. The unit plan provides excess cost reimbursement not to exceed $3000 per unit. Reimbursement on the unit basis is in terms of one teacher or therapist with a minimum number of children. This means that a therapist might serve 25 speech handicapped children in a speech therapy program where these children spend most of their time in a regular classroom.

Certification. Certification of speech therapists requires: (1) valid Nebraska elementary or secondary certificate; (2) speech therapy and related course work, 30 s.h., and (3) supervised clinical practice, 200 clock hours. At the beginning of the first year of experience in a qualified program, it is recommended that the speech therapist apply for membership and basic certification in the American Speech and Hearing Association.

Nevada

Legislation. Legislation will permit schools to have classes for handicapped children, and if such classes are held, these schools will receive somewhat higher state apportionments.

Certification. Speech therapists meet the requirements designated for special school service personnel: (1) bachelor's degree; (2) English, 20 s.h. (10 in speech); (3) abnormal psychology and psychology of speech handicaps, 10 s.h.

New Hampshire

New Hampshire has no special legislation or certification requirements.

New Jersey

Legislation. In 1954 a law was passed providing speech therapy for children handicapped with speech problems associated with organic deviations. Properly classified, speech handicapped children attending public schools are entitled to approved instruction not to exceed five hours each week.

Certification (effective July 1, 1957). To teach 'speech defective' children in elementary, secondary, or vocational schools, therapists must have (1) a limited elementary, secondary or vocational teacher's certificate, or a limited school psychologist's certificate; (2) a minimum of 19 s.h. in speech correction, psychology of handicapped, education of handicapped, child growth, reading disabilities, psychological testing, audiology, anatomy and physiology of ear and speech mechanisms, phonetics, speech pathology, and clinical practice in speech therapy; (3) 150 hours of student teaching in therapy with children who have speech disorders or one year of approved teaching experience in this special field.

New Mexico

Local schools in need of such services employ speech therapists.

New York

Legislation. (1956) The special education law provides services for the physically handicapped child which 'means a person under 21 years of age who by reason of physical defect or infirmity, whether congenital or acquired by accident, injury or disease, is or may be expected to be totally or partially incapacitated for education or for remunerative occupation.' The most recent legislation provides state aid for the reimbursement of the percentage of the teacher's time that is spent in servicing the children with speech disorders. A state supervisor of the Speech Handicapped was appointed in 1955.

Certification. For validation of certificates to teach speech correction, the prospective therapist must take (1) basic areas in speech science, six s.h.; (2) speech correction, six to eight s.h.; (3) mental hygiene and vocational adjustment, six to eight s.h.

Proposed certification requirements, not yet approved, in speech and hearing include (1) professional courses approved for public school teaching, 20 s.h. in student teaching in speech and hearing therapy, clinical methods and practice in speech and hearing problems, organization of speech and hearing program, psychology for teachers, principles of education; (2) basic science area, six to 12 s.h. in anatomy of ear and vocal mechanism, phonetics, voice and speech production, voice science, psychology of speech, acoustics and physics of sound; (3) speech arts, three to 12 s.h. in public speaking, oral interpretation and dramatics; (4) specialized areas in speech and hearing science, 21 to 33 s.h. (at least 12 s.h. in speech correction).

North Carolina

Legislation. The speech handicapped children are provided for in the special education act.

> Any person with a physical or mental handicap shall be eligible for appropriate special instruction provided for in accordance with this Act. . . . a handicapped individual shall be deemed to include any person with a physical or mental handicap. . . . Any school district which has maintained a previously approved program of Special Education for the handicapped individuals during any school year shall be entitled to and receive reimbursement from the state as determined by the State Board of Education for the excess cost of instruction of the individuals in said program of special education.

Certification. The speech therapist must (1) hold or be qualified to hold the Primary or Grammar Grade A Certificate; (2) have credit for at least 24 s.h. in special education with 10 to 15 s.h. in the introduction to exceptional children, tests and measurements, practice teaching speech therapy, child growth, and mental hygiene, and with 12 to 18 s.h. in speech correction courses which include reeducation of the acoustically handicapped and the anatomy of the ear and vocal mechanism.

North Dakota

Legislation. The law provides for the special education of exceptional children whose educational needs are not adequately provided for through the usual facilities and services of the public schools because of physical, mental, emotional or social conditions.

Each public school district maintaining approved speech correction classes shall receive state aid in the amount of $1500 per teaching unit at the local level or $2500 for the county-wide program.

Certification. Speech correctionists must have a North Dakota teacher's certificate and a minimum of 30 q.h. of special training. The following minimum qualifications are required: (1) a valid North Dakota teaching certificate and (2) a background of courses which will provide adequate preparation with (a) a total of 18 s.h. distributed in the basic and specialized areas of speech science and disorders; (b) a total of 12 s.h. distributed in various allied fields, excluding the speech arts; (c) a total of 200 clock hours of basic clinical training.

The speech correctionist should have personal speech habits in both voice and diction which meet an acceptable standard. It is anticipated that soon the minimum standard for speech therapists in North Dakota will be identical with the requirements for basic certification in the ASHA.

Ohio

Legislation. In 1945, legal provision was made whereby special educational services could be extended 'to all types of handicapped children' by expanding an earlier law which provided special educational services for deaf, blind and crippled. This law is interpreted to include children with speech problems and/or slight hearing impairments. The law also indicates:

> The State Board of Education shall prescribe standard requirements . . . for instruction . . . and services . . . such requirements shall include the conditions under which services are rendered, the methods of instruction, child study, counseling, adjustment and supervision, the qualifications of teachers, the conditions and terms under which they are employed, the special equipment and agencies for instruction provided, and the conditions of rooms and buildings in which the classes are held.

The minimum state support for a full-time speech and hearing therapist is $1925.

Certification. All applicants for the provisional special certificate in speech and hearing therapy shall submit evidence of the following preparation included within or in excess of the requirement for the bachelor's degree from an institution approved in the field of speech and hearing therapy: (1) courses in education, 17 s.h., distributed in educational psychology, principles of education, elementary and secondary organization, methods and practice teaching in public school speech and hearing therapy; (2) courses in psychology, 15 s.h., distributed in mental hygiene, education of exceptional children, human growth, adolescent psychology, tests and measurements, psychology of speech; (3) courses in speech and hearing, 24 s.h. in voice and articulation, phonetics, speech pathology, audiology, speech-reading; (4) clinical practice, 200 clock hours (100 in the public schools).

Oklahoma

Legislation. The school code refers to special education for the educable handicapped children. The law states, 'The several school districts of Oklahoma are hereby authorized to provide special education necessary for physically handicapped, speech defective, or slow learning children of legal school age.' It provides that from special education funds a maximum of $2500 will be allocated to schools operating an approved full-time speech and hearing program. A teacher load shall be about 75 to 100 cases. Individual cumulative case studies shall be kept for each child. The law provides that the teacher of special education shall be paid a minimum of five per cent above the prevailing wage paid teachers of normal children in the same school district.

Certification. Requirements for the standard teaching certificate are: (1) all general requirements and (2) a bachelor's degree from an institution approved for teacher education based upon the completion of a program approved by the state board of education for the education of teachers of physically handicapped with (a) a minimum of 50 s.h. in general education; (b) a minimum of 21 s.h. in professional education, including at least nine s.h. of student teaching methods and materials; (c) a minimum of 24 s.h. of college credit in special education subjects (speech and hearing).

Oregon

Legislation.

> 'Handicapped' includes all children who have the intellectual capacity and mental health to profit from such instruction and who for their education require instruction by means of a facility because they are . . . hard-of-hearing, speech defective . . . or otherwise physically handicapped. . . . The district school board . . . may organize suitable special facilities whenever at least eight such children, each of whom is . . . speech defective . . . will profit by a type of instruction differing from that given in regular school classes. . . .

If the superintendent approves the application, he may reimburse the district in an amount not exceeding one and one-half times the per capita cost of instruction for other children of such district.

Certification. For speech correction the candidate is required to have (1) the baccalaureate degree from a standard college or university; (2) a regular general Oregon elementary or secondary teacher's certificate, or one year of legal teaching experience in the regular public school classroom; (3) 36 q.h. of preparation in special education taken in a standard college

with at least 18 at the graduate level: education of the handicapped child, child growth and development, mental testing, speech defects and disorders, speech science, phonetics, clinical methods in speech correction, rehabilitation of hard of hearing, clinical practice in speech, electives in special education. A similar pattern of certification is required for teachers of the hard of hearing.

Pennsylvania

Legislation. An act of the general assembly in 1951 provides for the establishment of

> . . . speech and hearing rehabilitation centers for the proper training of children physically handicapped by speech and hearing defects. Pupil eligibility for such centers shall be determined according to standards and regulations promulgated by the state council of education.

A child with handicapping speech problems is defined as a child whose speech deviates so far from the speech of other people in the group that it calls attention to itself, interferes with communication, or causes the possessor to be maladjusted to his environment.

Certification. A certificate of standard grade valid for teaching may be extended to include speech correction on the completion of 24 s.h. of approved courses in professional education with (1) courses basic to all special class certification, six s.h., psychology of exceptional children, diagnostic testing, remedial teaching and mental hygiene; (2) courses definitely applicable to the practice of speech correction, 12 s.h.; (3) electives, six s.h., advanced speech clinic, mental tests, clinical psychology, voice and diction. In institutions approved for the education of speech correctionists, students pursuing the four-year elementary course may elect speech correction, as outlined above, and omit specialization, kindergarten, primary, intermediate or rural education. Those in secondary education may select speech as a field of specialization.

Rhode Island

No specific laws or certification for speech therapists are operating. Speech therapists qualify for the Special Subject Certificate. The requirements are (1) bachelor's degree from an institution approved by the State Board of Education; (2) 18 to 24 s.h. of education courses, depending upon the level of certification sought; (3) a minimum of 40 s.h. in appropriate technical and related technical courses in the special subject field.

South Carolina

No special laws are operating for the speech handicapped child. No certification plan, except bachelor's degree from a recognized institution with an approved program has been adopted. A handbook is issued for teachers and parents on 'Hearing and Speech Problems in Children.'

South Dakota

In practice, no state program[2] in speech and hearing therapy is operating. Services are handled entirely by the universities, private hospitals and clinics. However, a study of the legislative and certification provisions indicate that the framework for the development of a state program in speech and hearing is already present.

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[2]September 25, 1958, letter from James F. Kavanagh, Associate Professor of Speech, State University of South Dakota.

Tennessee

Legislation (1929).

> It is the purpose of this act to provide competent educational services for the exceptional children in Tennessee for whom the regular school facilities are inadequate and not available. The term 'special services' will be interpreted to mean . . . special teaching in the public school curriculum . . . such as lipreading, speech correction. . . . Excess costs for special services shall not be more than $300 per year for each exceptional child. The state commissioner of education is authorized to approve and reimburse local boards of expenditures for special equipment, materials and supplies, not to exceed $200 for speech and hearing and $300 for the hard of hearing.

For travel allowance reimbursable to local districts, up to $450 per year is allowed.

Certification. A teacher of exceptional children must meet the specialized requirements for certification endorsement in the appropriate area of exceptionality. An applicant for endorsement as a speech and hearing specialist must have a minimum of 60 q.h. in general education, plus 24 q.h. of professional preparation in education, not less than nine and not more than 12 q.h. in human growth and development in psychology. In addition, the applicant should have the following specialized preparation in speech correction, audiology and related fields: (1) survey course in exceptional children; (2) course work basic to both speech correction and hearing, nine q.h.; (3) specialized professional course work in speech correction, 18 q.h.; (4) specialized course work in hearing and audiology, six q.h.; (5) practicum, at least 200 clock hours as part of the above course work with up to 50 clock hours of audiology and speech-reading applicable.

Texas

Legislation.

> It is the purpose of the special education act that competent educational services be provided for the exceptional children in Texas between and including the ages of six and 17 for whom the regular school facilities are inadequate or not available. The term 'special services' may be interpreted to mean . . . corrective teaching, such as lipreading, speech correction . . . the state reimburses each school district the full salary and $400 for travel for each teacher unit in speech correction.

Certification. For permanent provisional certificates, the requirements for teachers of exceptional children in the area of speech disorders are: (1) completion of at least 24 s.h. of speech courses with major designated as speech correction, with 200 clock hours of clinical practice; (2) a minimum of 18 s.h. completed in a second teaching field with six s.h. of elementary education and six s.h. of secondary education and (3) six s.h. in directive teaching. The directive teaching should be in a second teaching field and designed to give the speech correctionist experience working with students who have speech difficulties in subject learning situation. All teachers are required to complete a baccalaureate degree and a general education program. Pre-professional courses in education (six s.h.) are also required.

Vermont

Vermont has no speech program in the public schools.

Virginia

Legislation.

> The State Board of Education is authorized to prepare and place in operation, a program of special education designed to educate and train physically handicapped, emotionally disturbed, and mentally re-

tarded individuals without regard to whether they are of school age. The State Board of Education is authorized to adopt such rules and regulations as may be necessary to secure adequate special services for handicapped individuals.

State funds are provided to assist local school divisions to employ and pay teachers of speech-defective children. Reimbursement is made on salaries of speech correction and hearing conservation teachers on the basis of one half of the teacher's salary with a maximum of $1500 from state funds.

Certification. General requirement is a baccalaureate degree from an accredited college. Special field requirements in speech correction are: (1) required credit, 12 s.h., including speech pathology, speech correction and therapy, student teaching in speech correction and 200 clock hours of clinical practice; (2) elective credit, 12 s.h., with at least four courses of approximately three s.h. each from the following: phonetics, anatomy of the speech and hearing organs, physiology of speech, physics of sound and speech, semantics, voice and diction, and additional courses in the area of speech correction and audiology.

It is expected that speech correctionists in the public schools will possess speech which is free from defect. Major emphasis is placed in the area of human growth and classroom management materials and methods.

Beginning July 1, 1960, 27 s.h. of course credit in speech and hearing therapy will be required. The pattern of training will be comparable to that of the Basic Speech Certificate.

Utah

No specific legislation for speech therapy was reported. Provisional Certificate for Public School Speech and Hearing Correctionists specifies a total of 28 q.h. in speech pathology, phonetics, voice science, clinical practicum, audiology.

Washington

Legislation.

There is established in the office of the superintendent of public instruction a division of special educational aid for handicapped children, to be known as the Division for Handicapped Children. Handicapped children are those children in school or out of school who are temporarily or permanently retarded in normal educational processes by reason of physical or mental handicap, or by reason of social or emotional maladjustment, or by reason of other handicap.

The 1949 statutes provide:

Special educational and training programs provided by the state and the school districts thereof for children temporarily or permanently retarded in normal educational processes by reason of defective hearing, defective sight, defective speech, cerebral palsy, and other physical handicaps, may be extended to include children of pre-school age.

Certification. The person who works in this area should possess an elementary or secondary certificate and 20 s.h. of speech clinic, psychology of adjustment, educational measurements, remedial reading, student teaching and methods.

West Virginia

Legislation. A recent law pertaining to special education now permits special education appropriation to be spent on speech correction programs. Reimbursement from special education budget will be contingent upon approved certification of therapist.

Certification. Special Non-Academic Certificates are available to public school speech therapists who complete the following: (1) six s.h. in phonetics and anatomy of ear and

vocal mechanism; (2) 16 s.h. in speech pathology and clinical practice; (3) three s.h. in audiology; and (4) electives in child development, mental hygiene. Two hundred clock hours of speech therapy are required and must be obtained under supervision of clinician holding the Advanced Speech Certificate in ASHA.

Wisconsin

Legislation (1913).

> . . . the board of education of any city or the county superintendent . . . may upon the basis of need and the availability of sufficient funds authorize such school district board, board of education or county to establish and maintain classes, special treatment and instructional centers for each of the various types of handicapped children.

The subsidy allowed for speech therapy is pro-rated according to the number of teachers in the state and the legislative appropriation.

Certification. Teachers of handicapped children must meet the general state minimum standards of 40 s.h. in liberal arts. General professional training requires 18 s.h. in areas of child or adolescent development, tests and measurements, practice teaching with normal children, fundamentals of speech, and other courses in education or psychology.

For teachers of exceptional children, six hours are required, such as problems of exceptional children, clinical psychology, and guidance of exceptional children.

In speech correction, 21 hours are required, including introductory speech correction, advanced speech correction, techniques of teaching speech correction, practice teaching, phonetics, hearing rehabilitation, speech for deaf, remedial reading, psychology of speech.

Wyoming

There has been no legislation relating to any speech program on a state level. All speech therapy is on a school basis at the university or under the Easter Seal Crippled Children's Program.

Summary

Legislation and Certification relative to the speech handicapped child in the public schools have been reviewed. Pertinent excerpts from state laws along with the plan of subsidy were given. For the most part the legislation is permissive. In only a few state laws is the 'speech defective' actually named, but the wording of the law is broad enough to be interpreted by State Boards of Education to include speech handicapped school children. Thirty-nine states now have special education laws which may allow the extension of services to the children with speech problems.

A review of the certification requirements in the various states would seem to indicate that possibly 32 states now have certification plans which approximate those of the Basic Speech Certificate in The American Speech and Hearing Association. This shows a definite growth since the author in 1955 reported (3) 15 states with certification requirements approaching those of the lowest grade of certification in the American Speech and Hearing Association. In addition to the specified courses in basic science and specialized speech and hearing courses, the public school speech therapist is usually required to take professional courses in education.

In some states (Connecticut, Delaware, Illinois, Iowa, Nebraska, Ohio, Oregon and Wisconsin) special certificates for speech therapists are pro-

vided, whereas, in other states, teaching certificates valid for teaching in elementary and secondary schools are first required before the addition of any specialized training.

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A Servo Model For Speech Therapy

Edward D. Mysak

Recently there has been a great deal of work and discussion in what has been called systematic research in experimental phonetics (*1, 2, 4, 8*). This research, it is hoped, may eventually lead to a better comprehension of the complex biological activity known as speaking, as well as of the many systems which make the act possible. Furthermore, in addition to great theoretical value, this work may also have far-reaching consequences relative to speech therapy.

It is the purpose of this paper to discuss the speech mechanism as a servosystem, in a manner which might allow therapists, who may be relatively unfamiliar with this area, to utilize more gainfully many of the principles involved. It is hoped, further, that it might tend to elicit a concurrent interest and movement toward much-needed systematic research in the corrective or re-educational procedures in speech therapy.

The model presented in this paper represents an extension of Fairbanks' (*4*) speaking system and was developed for the specific purpose of facilitating the therapy discussion. Comparison of the two models may be made by referring to Fairbanks' article. In addition, in an attempt to simplify the discussion, allusions to therapy will be primarily related to 'functional' articulation problems in adults.

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Receptor and Integrator Units

General Discussion. Inspection of Figure 1 reveals an addition to Fairbanks' (*4*) model of a four-component *receptor unit*. This unit is the estimating aspect of the sensorium and also serves in a controlling capacity of self-produced stimuli in the form of the *sensor unit* (*4*), a duality of function which will be seen to exist in other components of the total communication system. *Receptors 1* and *2* represent vision and audition, respectively, and have been described by O'Neill (7) as the bisensory unit which is chiefly responsible for speech reception.

O'Neill's findings emphasize the belief that normal efficient oral communication depends upon the simultaneous integration of acoustical-temporal as well as visual-spatial phenomena and not, as sometimes believed, on acoustical-temporal phenomena exclusively. This thought adds support to Milisen's (*6*) position that, in speech therapy, *Integral Stimulation*, which basically emphasizes visual as well as auditory aspects of a particular sound, is more effective than the traditional Stimulus Method (*10*), which is fundamentally an auditory approach.

Receptors 3 and *4* represent taction and motion, respectively, and are not conventional speech receivers; however, they are used in particular situations. For example, deaf and blind individuals have been taught to receive language by feeling the articulators as they move and make contact with one another and by associating

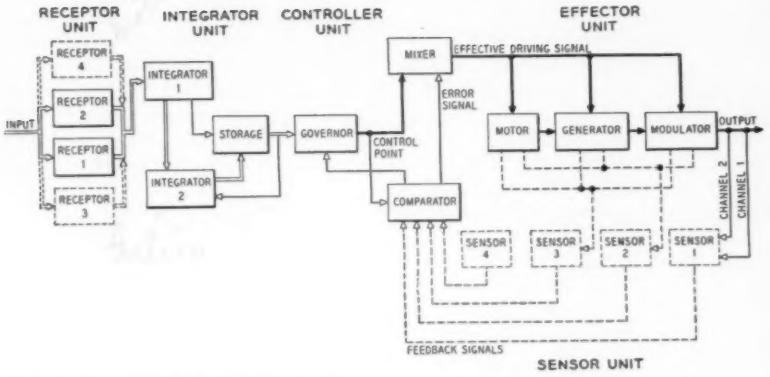

FIGURE 1. Therapeutically-oriented model of the total communication system.

meaning with these touch and movement sensations. Westlake (*12*) has stated that with cerebral palsied children something might be gained by allowing their fingers to sense articulatory movements of the tongue, *etc.*, as well as the intra-oral pressures associated with these movements. Similarly, these receptors might be used to good advantage with misarticulators, speech retardates, or dysphasics.

The utilization of receptors 3 and 4, in particular instances, would constitute a 'synesthetic approach' to therapy, or, in other words, would expose the individual to all the more important sound dimensions. Furthermore, the idea of synesthesia motivates thinking relative to imagery predisposition, or 'imagery type' (*3, 5, 9*), and the consideration of selective stimulation depending upon the individual being treated. The converse, or selective sensory deprivation, is implied in this discussion of selective stimulation; *i.e.*, it may be found that the excitation of particular sensory channels in some instances might actually be detrimental to therapy. Therefore, clinicians might find it valuable first to determine an individual's 'imagery index' and then to stimulate accordingly. This consideration of imagery type would result in individualized **stimulus-complex** approaches in therapy. Examples of classifications of individuals based on imagery, not considering the many possible combination types, might include: (1) audile–imagery predominantly auditory, (2) 'visile'-imagery predominantly visual, (3) 'tactile'–imagery predominantly composed of touch impressions and (4) motile–imagery predominantly composed of inner feelings of action and muscular movements.

The next component, or *integrator unit*, is composed of *integrator 1*, or the perceiver (that which invests stimuli with meaning), *integrator 2*, or the interpreter and formulator of stimuli, and Fairbanks' (*4*) *storage component*. The integrator unit will be discussed in extremely simple terms because of the great number of unknown factors that still surround it, including series of complex servosystems within itself.

Integrator 1 is composed of the

many primary sensory areas in the cortex which receive incoming stimuli and invest the stimuli, as well as any internal imagery resulting from this stimulation, with meaning (perceptualizing). In oral language reception, this process is basically concerned with auditory and visual phenomena; however, tactual, kinesthetic, olfactory and gustatory imagery might also be simultaneously evoked and integrated depending on what was being communicated. Integrator 2, or the many secondary sensory areas, may be thought of as having two functions: (1) the interpretation, elaboration and association of incoming language and (2) the formulation of appropriate language responses. Both are involved in conceptualizing.

Servotherapy Associations. The receptor and integrator units serve an important role in the initial, or 'priming,' phases of therapy, or *speech system readjustment.* The function of *primer 1* is to prepare the cliniciate (individual receiving therapy), or *total system,* for the adoption of the clinician's *sound product,* as well as the control mechanisms associated with that particular sound product. This initial priming step implies informing the cliniciate's language system that it is developing a defective product, *e.g.,* interdental[s]. The information is transmitted via the receptor unit and appreciated at the integrator unit level. In *servotherapy* terms, the development of a *therapeutic error signal* is initiated.

Primer 2 represents the excitation of the system's motivation or preparedness for readjustment. In essence, the clinician is attempting to impose the character of his servosystem upon the cliniciate in such a way as to excite the need within the cliniciate, for the initiation of *adoption processes* (equivalent to intrinsic motivation). The priming procedures, therefore, are considered extremely important to the beginning phases of speech system readjustment. In servotherapy terms, primer 2 continues to develop the all-important therapeutic error signal.

To complete the discussion of the receptor and integrator units, reference should be made to Fairbanks' (*4*) storage device. According to Fairbanks, it 'receives and stores the input and gives off an input signal.' Each input unit (articulatory cycle of unknown length which consists of what the individual intends to say next) corresponds to a *control point* which is the unit goal of the output. The control point will be further discussed under the *controller unit* (*4*).

In Figure 1 the storage device is thought of as a part of integrator 2, or the secondary sensory area. In this respect, it represents the potential for exciting an adequate language response in the motor areas of the controller unit. Discussion of the therapeutic significance of the storage device will also be deferred until a more appropriate point in the paper.

Fairbanks' (*4*) speaking system, comprised of the controller, effector and sensor units, completes the total communication complex.

Controller Unit

General Discussion. Fairbanks described the controller as 'an automatic device that issues specific orders to the effector' (*4*). Figure 1 reveals that the controller unit is composed of a *governor* (not found in Fairbanks' model), a *mixer* and a *comparator* (*4*). Except for the comparator, which might be considered as being the controller aspect of integra-

tor 2, this unit could be thought of as representing the primary and secondary motor speech areas (conventionally considered as being found along the anterior portion of the central fissure and in the area of Broca, respectively).

The governor, or secondary motor area (Broca's area), may be seen as receiving the stored *input signal* from the integrator unit's storage device in the form of a control point. The control point represents the governor's potential for 'triggering' the appropriate nervous pattern activity in the primary motor area.

In this system most of the mixer, described by Fairbanks (*4*) as having 'the function to combine error signal and input signal into the effective driving signal' (which, in turn, provides specific instructions to the effector), can be easily considered as representing the primary motor area along the anterior border of the central fissure.

The control point also goes simultaneously to the comparator which Fairbanks (*4*) described as the component which receives the feedback signals and 'with the input and feedback signals performs a calculation, essentially substraction, in which it determines the difference between the two.' The comparator can be thought of as representing the monitoring or controlling aspect of the integrator unit, and is the component which provides the error signal which represents the amount by which the control point in the governor has not been achieved by the effector unit. If the error signal does not equal zero, appropriate information is sent to the mixer which subsequently causes the effector to modify its operation in such a way as to reduce the error signal. Figure 1 reveals that the error signal is also fed into the governor where it acts to trigger off the next control point when the present one equals zero, or, to hold a particular control point when it does not equal zero. This process might be considered as being the 'automaticity' (*11*) aspect of language (the ability to 'speak ideas' rather than sounds, words and sentences). Hence, the comparator, according to Fairbanks (*4*), is seen to incorporate a prediction device which allows control points to flow rapidly without feedback monitoring when a zero error signal is expected.

Servotherapy Associations. As previously stated, primers 1 and 2 have begun to develop the therapeutic error signal. This error signal must be further amplified to the point where it will *short circuit* the cliniciate's servosystem whenever a control point contains the defective sound product, *e.g.*, interdental [s]; the short circuit must take place between the comparator and the governor. The clinician's function, therefore, is to destroy the comparator's predicted zero error signal (verbal 'automaticity') associated with all control points which contain the undesired product. Further amplification of this error signal is accomplished by using the principle of *matrix analysis* or *standard comparisons.* The procedure is also directed at the receptor and integrator units and is designed to demonstrate the differences, or *error factors,* between the cliniciate's defective sound output and the clinician's adequate sound output (relative to acoustical, visual, tactual and kinesthetic sound dimensions).

In essence, the clinician presents the 'matrices,' or 'standards,' for the different sound dimensions mentioned,

separately, or in various combinations, and compares them with the cliniciate's sound product (usually by imitating) to reveal the different error factors which exist. The individual's 'imagery index' should be considered at this stage of system readjustment. If the priming and matrix analysis steps have been properly executed, a short circuiting of the automaticity associated with the defective sound product should start to become apparent. The cliniciate's system should now be indicating a rejection of the old product when operating, *e.g.*, negative facial expression, *etc.* If not, readjustment should not proceed.

To this point, it is apparent that therapy, or speech system readjustment, has been exclusively sensory. All other factors being equal (psychological and physiological integrity of the individual or complete system), effective readjustment at this level should theoretically fire 'articulatory homeostatic processes' which would cause the cliniciate to produce the new and desirable sound product. Clinical observation, however, indicates that this is often not enough, although, in some cases, if executed properly, these procedures may be sufficient.

Effector and Sensor Units

General Discussion. The effector unit as described by Fairbanks (*4*) is composed of the *motor, generator* and *modulator* which represent the respiratory, vibratory and resonatory-articulatory structures, respectively. Observation of the sensor unit reveals the addition of *sensor 4*, or visual imagery, to *sensor 1*, or ear, *sensor 2*, or tactile end organs, and *sensor 3*, or proprioceptive end organs.

It is very possible that by certain individuals, especially 'visiles,' a strong visual imagery may be associated with correct or incorrect articulation of sounds, particularly those with obvious visual characteristics, *e.g.*, interdental lisp.

Servotherapy Associations. Returning to the system readjustment discussion, if the priming and matrix analysis has caused short circuiting to take place but not spontaneous 'articulatory homeostasis' (self-correction), the clinician proceeds to the *duplication process.*

The clinician now redirects his efforts, from the almost exclusive receptor-integrator aspect of the communication system, to the receptor-integrator aspect plus the controller-effector-sensor complex. As mentioned previously, this should not, theoretically speaking, always be necessary.

The duplication process has two phases: (1) the excitation of the receptor-integrator units with the appropriate sensory complex associated with a particular sound product and (2) the guided reproduction of this sensory complex by the clinician.

After an appropriate synesthetic combination has been developed for the cliniciate, the clinician proceeds to *charge* (stimulate) the cliniciate's receptor-integrator units with the various sensory dimensions of the new motor speech product. In combination with the infused error signal, which is developed by virtue of the priming and matrix analysis steps, this charging should be creating an adequate input signal in the storage component. Subsequently, the input signal should be capable of forming an adequate control point, relative to the particular sound undergoing modification, in the governor. Following appropriate charging, the cliniciate attempts to duplicate the desired sound product. This initial attempt at reproduction

should be externally influenced by guiding various parts of the effector unit to ensure that their performances coincide with the various sound-dimension matrices. The procedure also allows the sensor unit to experience, at the very first effort at duplication, a production that is associated with minimal error factors, tending to complement the therapeutic error signal created as a result of the initial priming and matrix analysis procedures. In addition, surface guiding of the effector unit, with its concomitant sensor unit excitation, aids in exciting the controller unit to make additional refinements of the control point.

In servotherapy, therefore, the clinician attempts to superimpose his speech system upon the cliniciate's. He hopes that eventually this open cycle control (stimulating and guiding) will develop into a closed cycle control (internal formation and monitoring, or the 'internalization' of the clinician, as it were). The last step in speech system readjustment is the development of rapid and automatic reproduction of the sound product, which depends on the formation, in the comparator's predicting component, of a zero-error-signal anticipation for the modified sound product. This process is *automation*, or verbal 'automaticity,' and depends, essentially, on repetition of reproduction.

Summary

In substance, the paper discusses a hypothetical elaboration of Fairbanks' speaking system into a total communication system for purposes of presenting servo-mechanistically-oriented therapy concepts. Basically, servotherapy consists of the clinician's superimposition of his speech system's sound product and control mechanisms upon the cliniciate. In indicating how this might be accomplished, the discussion emphasizes the fundamental importance of the receptor, integrator and controller units and describes such factors as priming, therapeutic error signal, matrix analysis and the duplication process.

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Speech Stimulation Practices Among Mothers Of Preschool Children

Sidney Goda

Kay Smith

In acquiring spoken language, the child passes through several stages. Berry and Eisenson (*1*) list these stages as kinesthetic experimentation, lalling, echolalia and true speech. McCarthy (*4*) and others (*5*) have studied the speech development of children after they have acquired their first words.

Certain physiological factors can inhibit, delay or accelerate the development of speech. In addition to organic factors, environmental factors also affect speech development. Brown (*2*) and Van Riper (*6*) list the two aspects of the speech environment which are most pertinent: motivation and stimulation. Motivation is the inner desire or need for speech and stimulation refers to the external impinging influences which provoke the organism to speech activity.

The amount and kind of speech stimulation which the child receives from his environment will influence the perceived need which the child has for speech. An inadequate or extreme lack of stimulation may result in slow development. Cases have been cited of retarded speech development as a result of insufficient speech stimulation (*2, 3, 5, 6*).

Although an inadequate amount of speech stimulation is recognized as being detrimental to speech development, it is generally agreed that 'there is great individual variation in the amount of speech stimulation different children require' (*2*). No study seems to have been made, however, of the amount of speech stimulation received by the preschool child in his home environment. Further, apparently no one has studied methods practiced by the parent in the speech stimulation of the preschool child. In this study, these two areas were investigated by interviewing a selected sample of mothers. During these interviews three topics were explored: (1) the amount of speech stimulation children receive in their home environment, (2) procedures used by parents in stimulating the speech of their children and (3) the areas of speech stimulation considered by the parents to be the most inportant.

Procedure

Seventy-five mothers of preschool children between the ages of two to five years were interviewed. Each mother interviewed had only one

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TABLE 1. Ratio of estimated mean number of hours of speech stimulation to estimated mean number of waking hours per week.

	Group A N=24	*Group B N=25*	*Group C N=26*	*Total N=75*
Mean Number of Hours of Stimulation	40	40	45.2	41.8
Mean Number of Waking Hours	80.3	79.2	82.3	80.6
Percentage Relationship of Number of Hours of Stimulation to Waking Hours	49.8%	50.5%	54.9%	51.8%

child in this age range.[1] The age group was chosen because the preschool years appear to be the most important period for acquiring spoken language. McCarthy's study (*4*) shows that by the time the child enters school he is capable of expressing himself in an adult manner. Many of his sentences are structurally complete at this time. The mother or father, and in some instances both parents, of each of these children attended East Texas State College during the study. At least one of the parents of each child was a public school teacher.

The subjects were divided into three groups: Group A, 24 children between the ages of two years and two years, 11 months; Group B, 25 children between the ages of three years and three years, 11 months; Group C, 26 children between the ages of four years and four years, 11 months.

[1]The number of siblings present in each family outside of this age range is not known.

The mothers were interviewed in their own homes. They were asked to give estimates of the time their children spent in each of six areas: (1) being read to, (2) listening to the radio, (3) watching television, (4) play situations with other members of the family, (5) family outings and (6) family conversations. These areas were chosen because they seemed to be the media that afforded the greatest amount of speech stimulation to the preschool child. Also, these were areas for which it appeared that estimates of time could be reasonably approximated. Each parent was questioned concerning the procedure used in stimulating her child. Finally, each parent was asked to rate each area as to its estimated relative importance in contributing to the speech development of the child.

Results

Amount of Speech Stimulation. Table 1 shows a parental estimate of

TABLE 2. Estimated mean number of hours spent in each speech stimulation area per week.

	Group A	*Group B*	*Group C*	*Total*
Television	9.3	12.7	16.3	12.9
Family Conversations	11.1	11.3	11.2	11.2
Play Situations	8.3	8.4	7.5	8.0
Outings	7.3	4.2	4.6	5.3
Being Read To	3.5	4.2	3.7	3.8
Radio	1.2	1.3	2.2	1.5

TABLE 3. Parental rank order and mean rating of areas of speech stimulation.

Rating	*Group A*	*Mean Rank*	*Group B*	*Mean Rank*	*Group C*	*Mean Rank*
First	Conversation	2.33	Conversation	2.31	Conversation	2.00
Second	Outings	2.75	Reading	2.88	Reading	2.77
Third	Reading	2.78	Play Situations	2.88	Television	3.08
Fourth	Play Situations	3.00	Television	3.17	Outings	3.42
Fifth	Television	3.83	Outings	3.81	Play Situations	3.60
Sixth	Radio	5.89	Radio	5.57	Radio	5.73

the mean number of hours the children were awake, the mean number of hours they received speech stimulation and the percentage relationship of the number of hours of speech stimulation to the number of waking hours.

The results indicate that speech stimulation activities account for half of the waking hours of these children. The oldest group (Group C) received the greatest amount of speech stimulation in relationship to the mean number of waking hours. The other two groups show approximately the same percentage relationship of number of hours of stimulation to the number of waking hours.

Table 2 shows a breakdown of the estimated time spent in each of the six areas by age groups and total. It can be seen that television accounts for the largest number of hours of stimulation, followed in order by conversation, play situations, outings, being read to and radio. Only two areas appear to show distinctions in amount of time spent with age, television favoring the older groups and outings favoring the youngest group.

Procedures Used in Stimulation. Three areas of stimulation, reading, outings and play situations, require parental participation. The following describes, in summary, the procedures used by the parents to stimulate the child's speech in these areas. Although some of the parents confined themselves to only one or two procedures in each area, the others used all of them.

While reading to the child, the parents would: (1) point out the pictures and discuss them with the child, (2) ask the child questions about the story, (3) answer the questions asked by the child and/or (4) discuss the story in relation to the things the child had seen and done.

While engaged in play with the child, the parents would: (1) play a role the child had chosen for them, that of a child, the next door neighbor or a character on television; (2) follow the lead of a child and act out the situation. In other types of play, such as coloring, playing ball, building with toys or putting puzzles together, the parent would: (1) ask the child questions, (2) give instructions, (3) talk about what they were doing and/or (4) answer questions asked by the child.

While on outings with the child, the parent would (1) point out things to the child and tell him the name, (2) discuss the things pointed out and ask questions about them, (3) answer questions by the child and/or (4) play a guessing game by describing the thing seen and asking the child its identity.

Parental Ratings. Each parent ranked each area according to its estimated importance in aiding the speech development of the child. Table 3 shows by age group the rank order and mean parental rating of each area.

Rank order correlations between the parents of Group A and the parents of Groups B and C are .66 and .71, respectively. The correlation between parents of Group B and Group C is .88. The latter correlation is significant at the .05 level, which would indicate that the parents of the two older groups are probably more in agreement with each other than either group is with the parents of the youngest group. However, all three groups agree in placing conversation as the most important speech stimulation area and radio as the least important.

Two discrepancies are seen to exist, however, between the parental ratings of the areas of stimulation and actual practice. Although television is rated relatively low in importance, children spend more time in that area than any other. The opposite is seen in reading, for although this area is rated very high in importance, children spend relatively little time in this area.

This study suggests clinical areas for exploration by speech therapists in their interviews with parents. The kind of speech stimulation received by the child may be of significance in determining the etiology of the child's speech problem. Similarly, the reason for the superiority among certain groups of children in language development may be attributed to the kind of speech stimulation existing in the home.

The relationship between speech stimulation practices and the development of speech should be investigated. A comparison of speech stimulation received by the following groups may be profitably explored: (1) one group superior in spoken verbal ability and one group inferior in spoken verbal ability, (2) singletons, siblings and multi-births, (3) males and females, (4) children from different socioeconomic backgrounds and (5) children from different educational backgrounds.

Summary

Speech stimulation practices among 75 mothers of preschool children between the ages of two to five years have been explored by means of interviews. Each mother interviewed had only one child in the age range selected. The mothers estimated the amount of time their children spent in each of six speech stimulation areas. Total group habits, differences among age groups in time spent and parental ratings of the estimated importance of each of the six areas have been discussed. The need for further research in this area has been pointed out.

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Clinical Notes

Esther L. Herbert, *Editor*

Carry-Over with 'Speech Pals'

The scene is the speech class. The characters are the speech therapist and a small group of children with speech problems. The action at the moment is concentrated in the facial muscles of the teacher who is trying to show Freddie how to produce the [f] sound. He is saying 'punny' instead of 'funny.' Pronunciation of his name has not yet been attempted because of the complicated [r].

Susie, sitting next to Freddie, whose problem does not include [f], grows impatient with the teacher's patience and taps Freddie on the shoulder. 'Say it this way,' she says slowly imitating the teacher. 'Say f-unny.' Freddie watches Susie's lips and repeats correctly 'f-unny.'

The situation is a minor problem in a life of major problems for the speech therapist, but it does demonstrate the ability of one child to imitate another child, who is imitating the teacher, more easily than to follow the original pattern.

This theory, that children learn behavior more quickly from their peers or that children are more or less pace-setters, was the basis for a program initiated in 1955 in Mecklenburg County, North Carolina. Children with acceptable speech, who are called 'Speech Pals,' help with the carry-over process in speech correction.

A large number of the 40 schools in the Mecklenburg County system are suburban rather than rural. In the past it has been impossible to serve all of them and certainly not possible to have more than one visit a week to those which did have a speech therapist. Somebody had to help. Children were available. Speech therapists were not.

During the first year the Speech Pal program was established in only eight schools and was increased gradually to include 20 schools. This year there are four speech therapists and, for the first time, all 40 schools are served. The Speech Pal plan was operating in most of them by February 1959.

Here is the plan: A leader-type child, selected by the classroom teacher, accompanies the speech handicapped child to his special class once a week. After an adequate number of sessions, where the helper absorbs the therapist's attitudes and instructional procedures, and after a special Speech Pal conference with the therapist, he arranges his schedule with his classroom teacher so that he spends about 15 minutes a day helping the child practice what he has learned in speech class.

This carry-over program is usually not begun until after the third or fourth month of the school year, since it is necessary to have auditory train-

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ing well under way and to establish the child's ability to correct defective sounds.

Before they are permitted to begin work, both the speech pupil and his pal are required to bring notes of approval signed by their parents. These notes are mimeographed, with blank spaces to be filled in according to the name of the child and the day of the week.

Association with one of the most popular children in class gives the speech handicapped child a feeling that he belongs and a *special* importance. It is a situation where a child does not leave the classroom alone, but in good company. Many times a classroom teacher has said that when she forgot the time the Speech Pal would raise his hand and say, 'It's time for Johnnie and me to go to *our* speech class.'

When there is more than one child in a room with a speech problem, often one Speech Pal serves two and works with them together in his daily assistance. The place where they work is up to the classroom teacher—at his desk, in a corner of the room, outside the door in the hall, or in another vacant room.

The Speech Pal does not work with lesson plans as it would then become a formal teaching situation which would defeat the idea of the pal relationship. The work the Speech Pal does is structured only to the extent that he is asked to spend a few moments hearing the child read. The rest of the time is devoted to spontaneous conversation and other improvisations on the part of the Speech Pal.

The first year of the program each helper was selected from the same room as the speech pupil. While some of the results in the primary grades were amazing, it was concluded that an older child might be of more value to the younger child. Fifth and sixth grade children were found to be excellent helpers because they have the stability and school experience that is needed and also possess a freshness, enthusiasm and spontaneity that is often lost as the child grows older. This arrangement does not detract from the privileged feeling the speech pupil experiences because having an older child coming to see him regularly gives him important attention. He does not creep out of the classroom alone but goes on a special mission with an older child. In spite of a few years' difference in ages, both are members of the child population and play on the same schoolgrounds.

If there is enough maturity in the third-grade child, a classmate is selected—if not, an older child. But from the fourth grade on, the speech pupils have their own classmates. When the speech handicapped pupil is in junior or senior high school, the plan is more difficult because of schedule complications. However, it has been used successfully on these two levels. If it can be arranged, it is very worthwhile, for the habit of the older boy or girl is more deeply entrenched and he needs more practice and has fewer years to correct his problem.

Help by a Speech Pal is given only to those with articulatory problems which include cleft palate and hard of hearing. The voice problem of the cleft palate, as well as other voice problems, is left alone. Also, those who stutter are given absolutely no extra help by the Speech Pal. However, these children do have Speech Pals who accompany them to class as they seem to enjoy it and would feel denied a privilege if they were without one. The Speech Pal is strictly for moral support—nothing else.

It is necessary to make sure the

Speech Pal has a disposition that will fit him for this type of helpfulness. Some very bright, leader-type children do not have the patience required. During the special conference with the Speech Pals, they are told that personalities differ. 'If, at any time, you become tired or bored in helping, or if other school activities become too heavy, let your teacher know and you will be free to stop.' Upon several occasions a few children have asked to be relieved because of other activity pressures, but the general rule is that children beg for the honor of becoming a Speech Pal.

Care must be taken also to keep the Speech Pal free of any manner that would be dictatorial or nagging. There seems to be no threat after the child visits the speech class and absorbs the spirit of helpfulness and especially after the conference with the therapist, who warns against any attitudes that will be harmful.

There was, however, one near-catastrophe in the program. A principal who was exceedingly interested in the plan and very conscientious about it sent one of his bright children to help a third-grader because the regular Speech Pal had an illness of several weeks' duration. The helper had never been to a speech class nor had she been given any instructions on how to help. With a visit only once a week to the school, the therapist was unaware that someone else had been drafted for the job.

Later, the therapist received a telephone call from the mother of the speech handicapped child saying that her son had enjoyed the speech class but now no longer wanted a Speech Pal. It seems that the helper, in her desire to evoke better speech from the child, was giving his shoulder a good shake every time he failed to say a word correctly. Needless to say, she was taken off the assignment. When the harm she was doing to the child was explained to her, she was very grieved and penitent. In fact, she was so heart-broken and so earnestly begged for another chance that she was permitted to go through the regular process of becoming a Speech Pal and allowed to help another child on a trial basis. She became one of the most understanding helpers in the program.

Speech Pals remain from one year to the next or until they grow out of the school. They become old hands and need no instruction on how to help the child. A number have expressed the desire to become speech teachers when they grow up. Some speech handicapped pupils have graduated to Speech Pals, and many more are motivated to greater effort with this goal in mind.

It is obvious that this program required complete cooperation among principals, classroom teachers, parents and speech therapists. So far, there has been enthusiasm from all concerned. While the program requires extra time and effort on the part of the speech therapist, the results would appear to warrant its continuation.

There seems to be a five-way benefit from the Speech Pal program:

1. It benefits the speech handicapped child by providing carry-over and at the same time furnishes 'social success' companionship which aids in personality adjustment.

2. It benefits the Speech Pal by offering him an extra responsibility which he is capable of meeting and which he needs for citizenship development and gives him an inner satisfaction of practicing the golden rule of helpfulness to others.

3. It benefits the school by desegregating it as far as speech handicapped and so-called normal children are con-

cerned, making the speech program an integral part of the school life and evoking interest from the entire child and teacher population. This integration is evident in late spring when a program is presented before an audience of school children, teachers and parents with every speech handicapped child participating as well as all Speech Pals. Since the Speech Pals take the heavier speaking parts and the speech handicapped pupils are successfully trained to do their oral share in the program, it is sometimes hard it tell 'which is which.'

4. It benefits the community by creating an interest in speech among parents of all children in the school rather than just those whose children have speech problems. Interest spreads to other citizens of the community.

5. This community attention has benefits for Special Education. The Speech Pal program has been an effective means of interpreting the speech program to the public at large. An example of its public relations significance is the notice the Southern Bell Telephone Company District Office took of the Speech Pal program. Last May the company honored 100 Speech Pals with a trip to the plant to observe operations in communication and celebrated the occasion with other entertainment. More recently, Southern Bell has volunteered to loan indefinitely special equipment, including telephones with an actual communication system, to be used in speech classes for creating further motivation for good speech.

The speech therapist in Mecklenburg County is always met with this greeting in September: 'May I be a Speech Pal this year?'

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Speech Rehabilitation for Laryngoplasty

Presently, voice rehabilitation for those patients who have had a subtotal laryngectomy with laryngoplasty are receiving speech training at the University of California Medical School in Los Angeles, California. The surgical procedure was originated by Dr. Joel J. Pressman, Chief of Head and Neck at this University.

The surgical principles presented in this technique have made it possible to remove almost the entire larynx and yet retain a normal airway. In all such efforts directed toward the same end, three technical surgical problems exist: (1) the need to create a lining, (2) to provide a lumen and (3) to lend rigidity.

In the technique under discussion, all three have been taken into consideration. For a lining, the external perichondrium of both alae of the thyroid cartilage is preserved and retained *in toto*, the method of providing a lumen is the old established one of a temporarily retained obturator, and the plan for providing rigidity is transplantation of the removed thyroid alae to a new site for the substitution in a new position of thyroid alae from a cartilage bank.

In addition to the thyroid cartilage, which is removed separately, structures routinely removed in one bloc by mass dissection comprise both true and both false vocal cords, with the attached arytenoid on the side of greater involvement, together with the ventricle, all the intrinsic muscles lying on the internal aspect of both sides of the larynx, the internal perichondrium, the laryngeal wall lying above and below the vocal cords, and, of course, the muscosa concerning these structures. In addition, sections of the circumference of the cri-

coid cartilage can if necessary be removed, and when indicated, the dissection can be carried further down and several tracheal rings resected in their entire circumference. It is also possible to resect the prelaryngeal soft tissue of the cricothyroid area. Attempts to remove the posterior segment of the cricoid cartilage have not been made because of the possibility of being unable to retain satisfactorily functioning aryeopiglottic folds, which are required to protect the airway during swallowing.

The postoperative construction of the newly formed larynx consists of a lining that was once the external layer of the perichondrium, but which, by virtue of the transposition, is now the internal layer. It is rapidly replaced by mucous membrane. Next to the perichondrial lining are the deep ribbon muscles sutured to it, and external to them are the transposed thyroid cartilages to lend the newly created larynx the required rigidity.

If the lining is well distributed over the interior of the larynx, no granulations form; but there is invariably a great deal of edema. In time, a fibrous band grows out from the one remaining arytenoid, simulating a vocal cord. In many instances, this cord is capable of some movement, separating from the midline to permit breath space and closing against the scar tissue of the opposite side for purposes of phonation. This is not observed until many months have passed.

The voice is ordinarily not normal or nearly normal, being more or less aspirate; but it is usable and in some instances quite good. In every case, however, it is very much more to be desired than esophageal voice.

In the immediate postoperative period, the voice is always more or less aspirate and improves gradually as the remaining arytenoid cartilage begins to rotate and contraction of fibrous tissue narrows the lumen.

Invariably vocal training is needed primarily to re-establish the proper breath control since it is characteristic of all such cases to breathe during phonation in such a manner as to exhaust the pulmonary air supply. This results in the patient appearing to be short of breath. It has been observed that maximum voice rehabilitation occurs about 18 months postoperatively.

Speech therapy commences as soon as the doctor indicates the patient is able to assume mechanical exercises. The patient is informed as to the nature of the problem, and immediate speech goals are established. These consist mainly of the development of proper breath control and of voice strengthening. Exercises used are those employed for cases of weak voice intensity. It is important that the patient utilize continuous and sufficient air pressure as if he had vocal folds. The push technique as illustrated by Dr. Emil Froeschels is effectively used in the beginning stages of speech therapy. Careful ear training and constant use of the tape recorder aid the patient in producing good voice. Emphasis on the elimination of quick gasps and of speaking on inhalation is included in training for breath control. Techniques in training the aphonic patient might be effectively incorporated in training these patients. During the early stages of treatment it is wise to support the patient and in all stages to maintain an awareness of his medical limitations.

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Book Reviews

Ernest H. Henrikson, *Editor*

EISENSON, JON, *The Improvement of Voice and Diction*. New York: The Macmillan Co., 1958. Pp. 303. $4.75.

This book is written for the use of students who wish background information about voice and diction that can be translated into personal skills, and appears to be organized for use as a text in college and University classes. As he says in the Preface, '. . . the author continues with a basic assumption made in others of his writings. The assumption is that intelligent human beings want to have some body of information about skills they are expected to acquire.'

The first section of 128 pages is devoted to voice improvement, with the following chapter headings: 'Basic Considerations,' 'The Mechanism for Speech,' 'Breathing for Effective Vocalization,' 'Making Yourself Heard,' 'Duration' and 'Vocal Variety.' The remainder of the book is devoted to a study of the individual speech sounds with two somewhat general introductory chapters for this section.

The book has many assets. The writing is sensible, and, for the most part, the explanations are as clear as they can be made in relatively brief discussions. The suggestions for voice improvement are specific and are presented in a way that certainly will prove acceptable to the author's 'intelligent reader.' The drawings are excellent. There are abundant practice materials, particularly for the section on diction.

Any limitations the book may have seem to the reviewer to be common to all the voice and diction handbooks of this sort he has seen. The present volume does not depart in any important respect from several similar volumes, excepting perhaps in the relatively greater emphasis on diction. One who sought to be critical about detail might, on the basis of his own views on voice and phonetics, question a number of points; but in the case of a book of this kind such objections as might be raised do not seem important pedagogically. It seems to the reviewer that the most serious limitation of this and other books of its kind is the brevity which prevents a really adequate treatment of the theory of voice and diction; he sees no reason why a student seriously interested in his own improvement should not be asked to read and study comprehensive discussions of basic theory.

The reviewer recommends that anyone who teaches voice and diction examine *The Improvement of Voice and Diction* with care.

JAMES CARRELL
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EWING, A. W. G. (ed.), *Educational Guidance and the Deaf Child*. Washington: The Volta Bureau, 1957. Pp. 345. $6.20.

This important book is a compendium of the results of systematized research studies completed under the guidance of Drs. Alex and Irene Ewing during the past several years. Since beginning their research at Manchester in 1927, the Ewings have attained an international eminence in the field of the education of the deaf. Their investigative program has been continuous, concerted and frequently visionary. Their published work has contributed important professional knowledge to those concerned with training and understanding the hearing impaired. The present book is certainly no exception.

The material of the book mainly emphasizes two areas of interest:

1. *The Value of Hearing Aids in Educating the Deaf*. Using what would appear to be appropriate experimental design, including control subjects, one study of residential children suggested that when group auditory training of high excellence was used intensively throughout the teaching day, severely deaf children responded by learning 'to talk more quickly, more rhythmically and with more varied intonation.' Another study, limited to the preschool range,

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explored the advantages of carefully supervised home training with hearing aids. The results demonstrated with some conclusiveness the impetus given to linguistic development when residual hearing, in some cases even fragmentary amounts, was exploited at an early age. Not only was the capacity for speech production fostered, but the ability to comprehend speech was greatly facilitated by combining hearing with lip reading. The results are reported objectively and optimistically but without unreined enthusiasm. No panacea is implied in the use of auditory training. Results for the profoundly deaf remain still very much in doubt, but the value of stimulating hearingmindedness' as well as 'seeingmindedness' in the large majority of deaf children is convincingly argued.

2. *The Mental, Emotional and Social Development of Deaf Children.* Results are cited which indicate that among residential deaf children in the British Isles there are significant delays in genetic development other than in language areas and that, in addition, these children also evidence greater-than-average symptoms of emotional stress and lack of social development. The point is clearly made that 'the handicap of deafness involves and threatens social and emotional development no less than linguistic and intellectual development.'

Intellectual assessments of these children were also made. Many of the conclusions strengthen and corroborate recent findings made elsewhere with reference to the effect of deafness on certain mental abilities. It is pointed out that deaf children can be tested successfully and fall well within the normal range when the test employed is appropriate, *i.e.*, when it eliminates verbal items. The performance sub-scale of the Wechsler Intelligence Scale for Children was shown to be such a test. On other individual test items such as the Raven's Progressive Matrices, however, deaf children are inferior. The same is true of digit-symbol tests. The conclusion is drawn, and again there is a corroboration of research elsewhere, that deafness results, in a 'concrete' approach to many mental tasks and that symbolic ability as reflected in certain test items is reduced by impoverished linguistic experience.

This recent book should be heeded not only by those who know the deaf but by those who wish to know them better.

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HOCH, PAUL H., and ZUBIN, JOSEPH, *Psychopathology of Communication.* New York: Grune and Stratton, 1958. Pp. 305. $6.75.

This book presents the proceedings of an annual meeting of the American Psychopathological Association. The 17 chapters and discussion units relating to papers presented include various types of materials, ranging from the address of the president of the Association through theoretical discussions of communication to controlled experiments in communication. As would be expected, the major emphasis is on communication in relation to the 'abnormal' person—'Reactions to Delayed Auditory Feedback in Schizophrenic Children,' 'Changes in Language During Electroshock Therapy,' *etc.* However, much of the material considers phases of communication as such.

This book should be of real value to the specialist in speech pathology. It should broaden his understanding of communication, the area in which he, too, is working. It should increase his insight into some of the problems and activities of a professional person with whom he is likely to have contacts, the psychopathologist. It may well stimulate him to a profitable analysis and evaluation of some of his own postulates and procedures.

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MORLEY, M. E., *The Development and Disorders of Speech in Childhood.* London: E. and S. Livingstone Ltd., 1957. Pp. 440. $6.75.

The author presents extensive clinical and research data pertaining to the development and disorders of speech occurring in childhood. The material, divided into six parts, includes: The Development of Speech in the Community, The Delayed Development of Speech, Defective Articulation, Stammering, Speech Disorders in Twins, Lateral Dominance and Disorders of Speech.

In the first part, she presents results of a nominative study of the speech development of children in some 1000 families in Newcastle upon Tyne. The speech of these children was evaluated on four occasions; the first when these youngsters ranged in age from 3.5 years to three years, 10 months, again after a one-year interval, at 6.5 years, and finally at age 9.5 years. The children were considered from the standpoint of their having developed single words and phrases, age at which intelligible speech emerged,

incidence of defects in articulation, analyses of tongue movements and the presence of stammering. This information was also analyzed in relation to sex, position in family, social status, and environmental and emotional factors. The mean age for single words was 11.8 months, mean age for use of phrases was 18.6 months, and the mean age for intelligible speech, 24.1 months. In a random sample of 144 children taken from the original 1000, 14 per cent had serious defects of articulation, among which four per cent were unintelligible. In the total sample at 6.5 years, three per cent had persisting defects of articulation and .7 per cent remained unintelligible. No significant correlations emerged between the age of speech development and sex, position in family, and social status. However, in the development and use of normal articulation, there was a significant difference in favor of the males which persisted until age five years.

In Part II, the delayed development of speech is considered with respect to clinical groups including those with hearing impairment, developmental aphasia, mental deficiency, psychogenic retardation, and speech retardation associated with cerebral palsy. The author does not state specifically for whom this book is intended. However, it appears that the first section related to diagnostic aspects of developmental disorders is intended principally for medical and secondarily for nonmedical disciplines. The portion dealing with the therapeutic aspects of these disabilities seems to be intended primarily for speech therapists.

The discussion pertaining to hearing defects is presented in a form geared for the beginning student in hearing. The serious student actively engaged in problems of hearing and hearing impairment, *e.g.*, those in audiology and/or the education of the deaf, is likely to be familiar with most of this.

The discussion of aphasia is clear and unambiguous. In an age when aphasia in children is receiving such widespread attention in our own country, it is interesting to note that, 'In over 20 years we have seen only two children who could be described as having a true receptive disability for speech.' The findings with respect to the mentally defective patients were quite similar to those found extensively in previous studies. 'The feature in these mentally defective patients was the absence, of, or poverty of, speech rather than defective use of articulation. The onset of speech was severely delayed; and, where it developed, there was extreme limitation in the use of expressive speech persisting throughout life. . . . In the majority, comprehension for speech was better than executive speech, and the patients could point to an object named, or a picture representing some action, when the corresponding words could not be elicited.' It is interesting to recall that Binet and Simon made similar observations in their *Intelligence of the Feebleminded* (1916).

In Part III, a classification system for disorders of articulation is presented. The author categorized these problems as (1) developmental dysarthria, (2) developmental articulatory apraxia, (3) dyslalia, (4) defective articulation due to deficient hearing, (5) defective articulation due to various structural abnormalities. For those unfamiliar with these general areas, the author has provided a comprehensive description and discussion.

Part IV deals with the general problem of stammering, *i.e.*, stuttering. In this particular section, publications from this country were integrated more extensively than in other sections of the book. The portion dealing with the speech development in twins offers information and data which, as the author suggests, requires caution in interpretation and precludes definitive conclusions.

Part VI deals specifically with the matter of lateral dominance and disorders of speech; and various tests for measuring these functions are discussed. Also offered are possible relationships between lateral dominance and the following: developmental aphasia, articulatory apraxia, isolated developmental dysarthria, delayed development of reading and dyslalia.

The manner in which the materials are presented suggests that the author is a highly skilled clinician, capable of verbalizing quite clearly her thorough approach. The beginning student in hearing and speech should find this book useful as a general orientation to differential problems in speech and language development.

ROBERT FRISINA
Gallaudet College

NELSON, ROY C., *The Nurse Speaks*. Philadelphia: F. A. Davis Company, 1958. Pp. 182. $3.50.

This well-written, non-technical book is designed to develop a broad concept of speech as a social function, to improve speech skills and to serve as a handy refer-

ence for communication problems for members of the nursing profession. The author has adapted principles from psychology, semantics, sociology and rhetoric to the speech need of the nurse. He discusses the different kinds of speech situations that a nurse is likely to encounter. He builds a good case for convincing nurses to spend time in improving their oral communication. This reviewer particularly liked the points he stressed in mental hygiene, personality growth and adjustment, and the importance of developing a sense of humor.

Chapter 5, 'Trippingly, the Nurse's Tongue,' could have been improved had the correct pronunciation been given for the terms listed rather than sending the reader to a dictionary. The rules given in Chapter 6, 'The Metabolism of Language,' are concise and clear. Since nurses learn about proprioceptive sensibilities such as pressure, pain, temperature, sense of position and movement, and visceral sense, it was a little disturbing to have reference made to 'five senses' only in Chapter 7. Chapter 8 discusses public speaking and would probably have been improved if an outline of a speech had been included as an example after the discussion. Chapter 14, 'Prescription for Maturity,' was an outstanding chapter.

The author's clear and interesting manner of writing is evident in the following quotations: '. . . burning one topic to a cinder is to be avoided, too. When the fire goes out, it is time to light a match to another topic. . . . The only dogma she invokes is not to be dogmatic. . . . Her small talk, like sunshine, dispels the fog of doubt and brightens the routine of daily living. . . . It should not seem strange to the nurse, that the best serum to immunize against stage fright is made from the thing which causes it—speech itself.'

The chapter on 'The Bedside Manner in Speech' was particularly good, as exemplified by: 'The gentle touch of the hand, the sympathetic smile, the observant sweep of the eyes, and the modulation of the voice are all as speech-creating as the greeting "Good Morning." Speech is in this respect an integral part of therapy—as much a part of nursing as adjusting a bed.'

A syllabus for a course in speech for nurses comprises the appendix. The question arises whether the units of the course would not have been more valuable after the appropriate chapters rather than lumped together at the end of the book.

The author accomplishes what he set out to do: that is, to show the importance of good communication in the nursing profession and ways of achieving it. The book is planned for persons relatively untrained and unsophisticated in speech.

RUTH M. CLARK

University of Denver

ROBERTS, SAM E., *Ear, Nose and Throat Dysfunctions Due to Deficiencies and Imbalances.* Springfield: Charles C. Thomas Co., 1957. Pp. 323. $8.50.

Dr. Roberts is concerned, in this book, with the subclinical deficiencies and imbalances which, he feels, 'are widespread in the United States.' As an example, he cites the common American complaints of 'I am utterly exhausted' and 'I don't feel well,' which, he states, are most frequently caused by insulin-sugar imbalance. The author advocates an increased attention to the constructive treatment of those who are apparently well, in place of the medical preoccupation with treatment of the sick. The deficiencies and imbalances he refers to are 'nutritional, electrolytic, hormonal, acid-base and insulin-sugar.'

His approach to disorders which are not apparently due to focal infections is to correct 'all obvious or suspected deficiencies and imbalances.' The result of the nutrition and endocrine therapy in correction of a specific condition is considered the 'Therapeutic Test.'

The author argues strongly against the precipitate medical abandonment or the resort to surgery in cases of deafness, among other disorders, with the diagnostic classification of 'irreversible,' when there has not been a determined attempt, through adequate therapy, to investigate the role of physiologic dysfunctions. 'The real (medical) specialist,' he writes, 'derives his truth and conclusions from the physiology, and chemistry and metabolism of the entire body.' That is, he searches for the whole disease and its causes, whereas with his examining instruments he can see only the manifestation of the disease.

In a chapter devoted to Ménière's disease, the author recommends a balanced nutritional regimen, vitamin and mineral supplementation and hormone therapy.

In a chapter on acoustic nerve dysfunction (sensorineural deafness), the author calls for more attention to the circulation in the labyrinth and to the entire eighth

nerve, rather than to the end-organ alone. The author states, surprisingly, that many dysfunctions of the eighth nerve 'are arrestable, at least in part, even in the aged.' He states that 'gonadal imbalances play an extremely conspicuous part among the age group when most dysfunctions of the acoustic nerve have their incipience,' and therefore recommends the administration of sex steroids 'nearly always' after the age of 40.

The last chapter, 'Basic Therapy,' includes the specific recommendations for medical and nutritional management along the lines suggested throughout the book.

In general, this is a book containing clinical impressions and hypotheses. It includes many statements of belief unsupported by experimental evidence. Coincidental occurrences, such as the gonadal imbalances in older persons and presbycusis are related by the author apparently to support the general theme, which might be paraphrased —*post hoc ergo propter hoc.*

Moe Bergman

Hunter College

Abstracts

Phillip A. Yantis, *Editor*

Anatomy and Physiology

HAGERTY, R. F., HILL, M. J., PETHT, H. S., and KANE, J. J., Soft palate movement in normals. *J. Speech Hearing Res.*, 1, 1958, 325-330.

Lateral cephalometric laminagraphs of 80 subjects at rest and phonating [s] and [a] were made to study velopharyngeal closure. All subjects showed complete closure while saying [s], but only half of the subjects showed complete closure on [a]. It is suggested that the velum plays a far more aggressive role in velopharyngeal closure than does the posterior pharyngeal wall. *(B. A. Landes, Texas Technological College)*

STRUBEN, W. H., and VAN GELDER, L., Movements of the superior structures in the laryngectomized patient. *Arch. Otolaryng., Chicago*, 67, 1958, 655-659.

There is comment on the biological and the communication functions of the soft palate in the presence of normal and abnormal anatomy. The authors describe their observations of the position of the soft palate and adjacent structures while speaking in normal and laryngectomized persons. They describe briefly the X-ray technique by means of which these observations have been made. In addition, they present roentgenograms of the normal and of the laryngectomized person which illustrate the differences in manner and extent of contact of the soft palate and the nasopharyngeal wall in these two conditions. *(A. C. Goodman, Washington University)*

TONNDORF, J., Localization of aural harmonics along the basilar membrane of guinea pigs. *J. acoust. Soc. Amer.*, 30, 1958, 938-943.

The possibility that aural harmonics and harmonic distortion in the ear occur in the cochlea has been supported by observation of cochlear models. However, attributing these phenomena to Békésy's 'eddies' cannot be complete without physiological data. In the present study, the ears of guinea pigs were used to gain the following conclusions: (1) within the cochlea, harmonic distortion occurs at a lower intensity level than it does in the middle ear; (2) distortion is resolved along the basilar membrane in the form of travelling waves in accordance with the place principle of frequency localization. *(B. A. Landes, Texas Technological College)*

TSCHIASSNY, K., Necrophonia. *Arch. Otolaryng., Chicago*, 67, 1958, 643-648.

The author presents a description, illustrated with photographs of two models of the larynx (one a transverse section, the other a sagittal section), of the mechanism of phonation in the live human. An explanation of phonatory phenomena in the dead human is offered. There are comments also on phonation in other mammals. *(A. C. Goodman, Washington University)*

General

ALBRIGHT, R. W., Differences between the child and the aphasic. *Language and Speech*, 1, 1958, 177-180.

'Comparison between children and aphasics shows more differences than similarities in their language and behaviour. . . . The pathology of aphasia is not to be understood in the same terms as child development.' *(P.A.Y.)*

FITZSIMONS, R., Developmental, psychosocial and educational factors in children with nonorganic articulation problems. *Child Develpm.*, 29, 1958, 481-489.

'The purpose of this study was to determine if speech handicapped children differed from normal speaking children in ways other than in the speech disorder syndrome. Data were gathered from a study of two matched groups: a control group of 70 children with normal speech and an experimen-

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tal group of 70 children with diffuse, nonorganic articulatory problems. Historical case study data were secured. Projective and nonprojective test results were analyzed for both groups. The articulation sample revealed more deviation in the developmental, psychosocial, and educational variables tested than did the normal speaking sample. . . . (This) investigation suggests the existence of a relationship between a diffuse, nonorganic articulatory disorder and psychosocial factors, indicating a need for additional research. These findings preclude the efficacy of an essentially symptomatic treatment approach in speech therapy with children who present diffuse, nonorganic articulatory problems.' *(P.A.Y.)*

GOODSTEIN, L. D., Functional speech disorders and personality: methodological and theoretical considerations. *J. Speech Hearing Res.*, 1, 1958, 377-382.

'Systematic reviews of the empirical relationships between speech disorders and personality have been critical of the methodological inadequacies and theoretical limitations of research in this area. The present paper has surveyed some of these inadequacies and limitations, including statistical considerations, the requirements of sample size, the necessity for control groups and the problem of cross-validation. The problems involved in personality assessment were discussed and some suggestions for future research, especially within-group comparisons and longitudinal measurement, were made.' *(Author's precis)*

GOODSTEIN, L. D., Functional speech disorders and personality: a survey of the research. *J. Speech Hearing Res.*, 1, 1958, 359-376.

This article summarizes 106 references to personality factors and speech defects. Personality associated with articulation disorders, delayed speech, voice disorders, and stuttering is discussed in terms of the literature of the past 25 years. *(B. A. Landes, Texas Technological College)*

HARRISON, S., A review of research in speech and language development of the mentally retarded child. *Amer. J. ment. Defic.*, 63, 1958, 236-240.

The author brings up to date the literature dealing with problems of the speech and language development of the mentally-retarded child. He concludes with a listing of subject areas in which little research has been accomplished. *(B. B. Schlanger, West Virginia University)*

REES, M., Harshness and glottal attack. *J. Speech Hearing Res.*, 1, 1958, 344-349.

Isolated vowels produced by speakers with clinically diagnosed harsh voices were studied in terms of abruptness of initiation of tone and degree of perceived harshness. Only one of the nine vowels used showed a significant correlation between judged abruptness of initiation and judged harshness of the voice of the speaker. All other vowels showed an insignificant but positive correlation indicating a 'tendency for abrupt initiation to be associated with harshness in the general population of harsh voices.' *(B. A. Landes, Texas Technological College)*

REPORT OF CONFERENCE ON DIAGNOSIS IN MENTAL RETARDATION, *Train. Sch. Bull.*, 55, 1958, 17-44.

This issue summarizes the addresses and discussion of participants from 10 disciplines concerned with the problems of mental retardation. The conference was called to explore 'one of the most pressing problems confronting workers in the field of mental retardation . . . the need for competent, uniform standards and procedures in the critical area of diagnosis of the mentally retarded.' Speech and hearing in diagnosis was discussed by Eisenson, Schlanger and West. The full papers of all participants are to be published in the booklet. *(B. B. Schlanger, West Virginia University)*

SOKOLOV, A. N., Fiziologicheskoie issledovanie rechevykh mekhanismov umstvennoi deiatel'nosti. (Electrophysiological investigation of the speech mechanisms in mental activity.) *Doklady Akad. Pedagog. Nauk RSFSR, Moskva*, 1957, No. 1, 93-97.

Language is a basic component of thought. Thinking takes place in external, visible form and in inner, hidden form. According to I. M. Sechenov and I. P. Pavlov, the basic components of speech are speech-motor stimuli (speech kinesthesias). Two other components of speech are phonal (listening to speech) and visual (reading). Both are closely interrelated and connected with the speech-motor component. The presence of speech-motor stimuli has been very clearly shown by many electrophysiological experiments. The author establishes several important facts and illustrates them by oscillograms of micro-movements of the tongue, lips, and other speech organs. His oscillograph is connected with tiny electrodes which are attached to different speech

organs. The electromyogram potentials show not only a direct connection between speech-motor and speech-auditory components and their cortical interaction, but also reveal a signal-organizing and integrative role of the speech-motor stimuli. *(B. V. Morkovin, University of Southern California)*

SYMONS, N. S., Workmen's compensation benefits for occupational hearing loss. *Noise Control*, 4, 1958, 300-304, 332.

Among the provisions of a new law passed in New York State are: a limitation to cases of hearing loss resulting from exposure to industrial noise; a six-month waiting period; and an apportionment of liability between successive employers. The details of the law are discussed by one of the attorneys responsible for it. *(B. A. Landes, Texas Technological College)*

THIESSEN, G., and SHAW, E., Ear defenders for noise protection. *J. aviat. Med.*, 29, 1958, 810-814.

When one utilizes a sealed ear protector, low-frequency sound can still reach the ear because of vibration of the ear protector. Cushions containing a high bulk modulus filler can effectively minimize this effect. The volume of the cup and also the area of the head enclosed are factors which affect the effectiveness of any protector of the muff-type. Suitably designed ear defenders can provide as much as 20 db attenuation at 50 cps. *(H. J. Oyer, Ohio State University)*

TISZA, V., SELVERSTONE, B., ROSENBLUM, G., and HANLON, N., Psychiatric observations of children with cleft palates. *Amer. J. Orthopsychiat.*, 28, 1958, 416-423.

A research development clinic has been established at the Cleft Palate Institute of Tufts University for the longitudinal study of the mother-child unit from the new-born period on. This paper presents some preliminary observations of a group of children. Mothers are reported to have marked guilt feelings. Children with cleft palates are 'activity-oriented' and have strong desires for self-sufficiency. *(F. Robinson, Miami University)*

ZWISLOCKI, J., Ear protection: effectiveness *vs.* comfort. *Noise Control*, 4, 1958, 330-351, 384.

Because of the necessity of pressure on the skin by an ear protector, effectiveness increases as discomfort increases. Therefore, some form of compromise must be observed in the manufacture and design of these items. The article discusses relative effectiveness and comfort of commercially available semiplastic earplugs, semiplastic earmuffs, and earphone cushions. *(B. A. Landes, Texas Technological College)*

Pathology

COHN, R., and NEUMANN, M., Jargon aphasia. *J. nerv. ment. Dis.*, 127, 1958, 381-399.

Case histories of three aphasic patients are presented to illustrate the authors' contention that clinical jargon aphasia can be delineated into three fundamental levels. Jargon aphasia is defined as a disturbed syntactical structure or a disruption of the sequential ordering of speech resulting in a dissolution of effective action; it is a verbal production that has lost its semantic transfer property.

The first level is the syllable type of jargon where individual words (written and spoken) are distorted. At level two, there are little or no individual word disturbances, but phrases and sentence structure are distorted enough to impede meaningful information transfer. At the third level, words and individual sentences are well formulated, but the paragraph loses its coherency or contextual continuity. *(E. H. Nober, Adelphi College)*

LURIA, A. R., Brain disorders and language analysis. *Language and Speech*, 1, 1958, 14-34.

'. . . Lesions in the left temporal zone cause a break-down in the discrimination and generalization of sound patterns, and above all in phonemic auditory perception. This in turn affects pronunciation and writing, and also the structure of word-meanings. . . . Lesions in the parietal and parieto-occipital areas produce a failure in dealing with "communications of relations," a failure to combine a number of elements into a single whole. When these lesions extend to the borders of the speech area, they entail a further break-down in operations that require the abstraction of a scheme of reference. "Communication of relations" necessitates precisely this operation and this explains why patients with parieto-occipital lesions are often unable to deal with such communications. Lesions in the fronto-temporal areas affect the synthesis of successive elements and hence lead to a failure in "propositionizing." In all cases of parieto-occipital lesion the "regulating"

function of speech remains intact. Animal experiments have shown that ablation of the frontal sections of the cortex completely upsets the regulation of the animal's behaviour. In man, frontal lesions interfere with the regulating function of speech without affecting other speech functions.' *(P.A.Y.)*

MISRAHY, G. A., ARNOLD, J. E., MUNDIE, J. R., SHINABARGER, E. W., and GARWOOD, V. P., Genesis of endolymphatic hypoxia following acoustic trauma. *J. acoust. Soc. Amer.*, 30, 1958, 1082-1088.

Three experiments are described in which observations were made on hamsters, cats and guinea pigs of the effects of strong acoustic stimulation on oxygen supply. 'These results are interpreted as indicating that the endolymphatic hypoxia following loud sound is due to a decrease in the oxygen supply/demand ratio resulting from (a) an increase in metabolism and (b) no change, or decrease in cochlear blood flow and/or permeability of the stria vascularis.' *(B. A. Landes, Texas Technological College)*

PFAU, W., Untersuchungsergebnisse bei Recurrensparesen. (Results of examinations in paresis of the recurrent nerve.) *H N O, Berlin*, 5, 1958, 144-146.

Laryngeal examinations by stroboscopy were performed on 24 patients. Voice quality, and circumference of the voice, and the maximum duration on one breath intake were noted. In the cases of insufficient closure of the glottis a tendency toward using a higher voice was observed. The circumference of the voice, except in two cases, was below the norm, as was the duration. In 20 of the cases, although one vocal cord was paralyzed, stroboscopy revealed equal vibration on both sides. *(E. Froeschels, New York City)*

ROBERTS, A. C., Symbolic language discrimination in psychomotor epilepsy. *Dis. nerv. Syst.*, 19, 1958, 469-475.

Thirty psychomotor epileptics with disorders of either the right or left temporal lobe as indicated by electroencephalograms were administered the Raven Progressive Matrices and the Mill Hill Vocabulary Scale. Although audiometric studies indicated little or no hearing loss in these patients, they were '... easily confused by words which sound somewhat similar.' It is concluded this language dysfunction is related, '... at least in part, to a mild receptive aphasia.' *(J. L. Shapley, University of Iowa)*

SCHLANGER, B. B., Results of varying presentations to brain-damaged children of an auditory word discrimination test. *Amer. J. ment. Defic.*, 63, 1958, 464-468.

'Twenty-four children who were diagnosed as mentally retarded due to a brain defect were tested to ascertain whether they were able to withstand the attraction of extraneous background stimuli while participating in a simple choice technique test of auditory word discrimination. Two series of presentation, one "live," the other recorded, were varied in terms of three types of background sound. The results demonstrated that the means within each series were practically identical, indicating that the experimental factor of the varying backgrounds did not effect the word choice of the subjects. A significant difference was found between the type of presentation, with higher mean scores for the "live" presentation in all types of background. It was concluded that the perceptual dysfunctioning was a result of disturbed behavior as sequelae of cortical lesion rather than a general or specific auditory factor.' *(Author's precis)*

SHERMAN, D., YOUNG, M., and GOUGH, K., Comparison of three measures of stuttering severity. *Proc. Iowa Acad. Sci.*, 65, 1958, 381-384.

'A comparison was made of three measures of stuttering severity: reading time, frequency of moments of stuttering, and scale values derived from listener ratings. Measures were taken on 24 tape-recorded, 200-word readings by each of 10 stutterers. Each measure was compared to the other two measures by means of Pearson's correlation procedure. All interrelationships were statistically significant. The strength of relationship, as estimated by obtained r's, was highest between frequency of stuttering and rated severity of stuttering.' *(Authors' precis)*

THALANDER, H. E., PHELPS, J. K., and KIRK, E. W., Learning disabilities associated with lesser brain damage. *J. Pediat.*, 53, 1958, 405-409.

Brain-damaged children with no demonstrable motor handicap and those with little motor involvement merge, presenting perceptual difficulties with the most easily recognized disturbances in the field of speech and hearing problems. When not understood and dealt with properly, these deficits interfere with intellectual accomplishments, causing emotional maladjust-

ment and disturbance in socialization. The authors state that neurological tests are not always sensitive enough to detect interference with the integrity of the central nervous system. They suggest that careful testing psychologically, educationally and developmentally can detect variations from the norm and anticipate future learning disabilities. (*B. B. Schlanger, West Virginia University*)

Weiskrantz, L., and Mishkin, M., Effects of temporal and frontal cortical lesions on auditory discrimination in monkeys. *Brain*, 81, 1958, 406-414.

Fifteen monkeys subjected to bilateral lesions in the inferotemporal region, the posterior-temporal region, or the lateral-frontal region were tested either for initial post-operative learning or for post-operative retention of simple auditory discrimination between white noise and a 1000 cps tone. It was found that inferotemporal animals were not impaired, posterior-temporal animals were slightly impaired, and lateral-frontal animals were severely impaired on this task. The results were the same for initial learning and retention. Implications of the findings are discussed. (*B. S. Street, Minneapolis*)

Wright, I. S., The pathogenesis, diagnosis and treatment of strokes: a progress report. *Ann. intern. Med.*, 49, 1958, 1004-1021.

As strokes are not primarily lesions of the brain, but usually represent a localized manifestation of a generalized condition, the treatment and study of cerebral-vascular diseases can no longer be compartmentalized within one medical specialty such as neurology. The author discusses causes of strokes and techniques used in prevention and treatment. Questions related to rehabilitation are posed. (*B. B. Schlanger, West Virginia University*)

Zorzoli, G.-C., and Boriani, A.-V., Recherches histochimiques sur les cellules ciliées de l'organe de Corti soumises a des stimulations acoustiques. (Histochemical studies of the hair cells of the organ of Corti subjected to acoustic stimulation.) *Rev. Laryng., Bord.*, 79, 1958, 213-220.

Glycogen can be detected in the external hair cells of the organ of Corti of the guinea pig by a post-mortem staining technic. Ante-mortem sound stimulation at 40-50 db reduces the amount of glycogen present and produces a characteristic distribution of it. Weaker stimuli produce no identifiable change, but stimuli of about 80 db for half an hour or more cause the glycogen to disappear. Glycogen is believed to participate in the metabolic processes of the external hair cells in their function as sound receptors. (*R. Goldstein, Jewish Hospital of St. Louis*)

Psycho-Acoustics

Garner, W. R., Advantages of the discriminability criterion for a loudness scale. *J. acoust. Soc. Amer.*, 30, 1958, 1005-1012.

On the basis of his experiments, the author concludes that 'those psychological scaling methods which make use of the discriminability criterion are more legitimate, valid and meaningful for the scaling of loudness than are those methods which make use of various types of direct response on the part of the observer.' (*B. A. Landes, Texas Technological College*)

Green, D. M., Detection of multiple component signals in noise. *J. acoust. Soc. Amer.*, 30, 1958, 904-911.

'The detectability of a complex signal, one generated by adding two sinusoids, and partially masked by white noise, is determined. Several frequencies and three durations are used for the signal. The experimental determinations are compared with three mathematical models. These models are all interpretable as an extension of the critical band concept. The data are best explained by a model in which it is assumed that two or more critical bands may be linearly combined. This implies that the auditory mechanism may change the appropriate parameters of the analysis process in order to match the signal to be detected. (*Author's precis*)

Hirsh, I. J., Monaural temporary threshold shift following monaural and binaural exposure. *J. acoust. Soc. Amer.*, 30, 1958, 912-914.

A series of experiments was performed involving the measurement of monaural TTS after monaural and binaural stimulation with a pure tone and with white noise. Results indicate, generally, no or little difference in the TTS as a function of whether one ear or two is stimulated. 'Somewhat different conclusions are reached if one separates the TTS for the less susceptible ear of all listeners from the more susceptible ear.' (*B. A. Landes, Texas Technological College*)

JERGER, J. F., Cumulative auditory fatigue. *J. Speech Hearing Res.*, 1, 1958, 299-308.

Using a stimulus of 3000 cps to produce fatigue at 4500 cps, the cumulative effects of various SPL's on threshold recovery time were measured. Results indicate a cumulative effect on recovery time as the SPL reaches and exceeds 95 db. A critical intensity level in the vicinity of 100-105 db is suggested. 'Apparently the cumulative effects evoked by one level of fatiguing intensity may bear no systematic relation to the cumulative effects present at another level.' (*B. A. Landes, Texas Technological College*)

KIRK, R. E., Difference limen for tone diminution. *J. acoust. Soc. Amer.*, 30, 1958, 915-918.

By electronic means two tones whose diminution rates were independently adjustable were presented to subjects alternately. The subjects judged which of the two tones had the more rapid diminution rate. Through the method of constant stimuli, the difference limen over the range of diminution rates studied was determined as 4.5 to 5.5 per cent. The relation between the difference limen and diminution rate is described by a formula. (*B. A. Landes, Texas Technological College*)

TANNER, W. P., JR., What is masking? *J. acoust. Soc. Amer.*, 30, 1958, 919-921.

'Three experiments are presented and analyzed in terms of a conventional definition of masking and a masking index conforming to this definition. It is demonstrated that, even though all of these experiments yield data permitting calculation of the masking index, at least three distinct processes lead to these data: signal masking, distortion of the sound wave form, and listener distraction. Either masking theories should take these three processes into account, or masking should be redefined.' (*Author's precis*)

TAYLOR, I. G., Localization of sound stimuli. *Speech Pathol. Ther.*, 1, 1958, 66-69.

The author discusses the development of the ability to localize sound as he has observed it in small children. He mentions that the age at which babies begin to locate sound automatically coincides with their ability to sit up supported. (*P.A.Y.*)

TRITTIPOE, W. J., Residual effects of low noise levels on the temporary threshold shift. *J. acoust. Soc. Amer.*, 30, 1958, 1017-1019.

'The present study measures the temporary threshold shift (TTS) following two conditions of high-level noise exposure: (1) a control condition where the high-level noise is preceded by a period of silence; (2) an experimental condition where the high-level noise is preceded by noise levels which alone produce no apparent TTS. When the non-TTS-producing noise was coupled with the high-level noise, a greater threshold shift resulted than when equivalent periods of silence preceded the same high-level noise.' (*Author's precis*)

WAINWRIGHT, W. N., Comparison of hearing thresholds in air and in water. *J. acoust. Soc. Amer.*, 30, 1958, 1025-1029.

Previous studies indicate that underwater conversation is limited by three factors: (1) loss of sensitivity of the ear, (2) reduction of voice intensity in water and (3) masking noise produced by the swimmer's breathing apparatus. In the present study, it is determined that hearing acuity is reduced most greatly in the 500-2000 cps range under water and that hearing acuity is enhanced under water below 300 cps. Measurements of reduction in voice spectrum under water are also presented and discussed. (*B. A. Landes, Texas Technological College*)

WARD, W. D., GLORIG, A., and SKLAR, D. L., Dependence of temporary threshold shift at 4 kc on intensity and time. *J. acoust. Soc. Amer.*, 30, 1958, 944-954.

A series of studies on normal ears of the effects of a broad-band noise is summarized in two equations which appear to be more thorough than previously proposed equations. It is evident from the formulae that an intermittent noise is much less damaging to the ear than a continuous noise. (*B. A. Landes, Texas Technological College*)

Rehabilitation

BAJPAI, P. C., and DIKSHIT, S. K., Micrognathia with cleft palate: Pierre Robin syndrome. *Indian J. Child Hlth*, 7, 1958, 320-323.

Feeding difficulties in the child with cleft palate are further accentuated by the presence of micrognathia and its consequent poor development of tongue musculature. The writers present a case history to aid in diagnosis of the condition and to review the medical management of such children. Surgery for closure of the cleft palate should be performed as soon as the child

is physically fit for such treatment. Where the mandible recedes more than 1 cm. as compared to maxillae, prognosis is poor and these children rarely reach the age of two years, even with careful management. It is suggested that mechanical appliances be used, at least in the initial stages, to keep the jaw pushed forward. (Courtesy *Rehab. Lit.*)

BUTFIELD, E., Rehabilitation of the dysphasic patient. *Speech Pathol. Ther.*, 1, 1958, 60-65.

'In this article management of the dysphasic patient is discussed, together with general rehabilitation. An outline is given of a classification found suitable as a basis for therapeutic procedures. General and specific treatment of dysphasic language disorders is described.' (*Author's summary*)

DOWD, A. H., The role of speech therapy in the personality development of the mentally retarded child. *Bull. Georgetown Univ. med. Cent.*, 11 (3, 4, 5), 1958, 3 parts.

In this discussion of the personality development of the mentally retarded child and the role of speech therapy, the author first considers the speech development of the average child and the causes of mental retardation. A general discussion of the nature of speech defects of the mentally retarded follows; studies have shown that these defects are of the same nature as those of normal children, differing only in quantity rather than quality. Because of lack of intellectual capacity in the mentally retarded, the speech therapist employs speech therapy to bring about modifications of concepts of self and the environment in order to help the child achieve a more organized personality. Adaptations of therapy to the limitations of the mentally retarded are discussed. Group therapy has been found the most effective type of speech therapy for the development of personality as well as speech in these children. (Courtesy *Rehab. Lit.*)

FROESCHELS, E., Medical and psychological aspects of speech and voice disturbance. *Quart. J. Speech*, 44, 1958, 294-298.

The author discusses the following topics: the need for more effective collaboration between medical and non-medical professional people concerned with voice and speech problems; philosophic differences between medical and psychological curricula affecting orientation toward treatment; and the importance of clinical observation with respect to the symptomatology of stuttering and voice problems. (*M. Rees, Sacramento State College*)

GRADY, P., The treatment of dysarthria in cases of congenital suprabulbar paresis. *Speech Pathol. Ther.*, 1, 1958, 51-59.

Results of speech examinations and of post-pharyngoplasty speech therapy on 18 children with congenital suprabulbar paresis are outlined. Major attention in speech therapy was devoted to lip movements, improving tongue mobility, and exercises in breath direction. It was felt that speech therapy previous to surgery was useless, as were post-surgical exercises in strengthening velar movements. (*P.A.Y.*)

IRWIN, O. C., Correct status of initial double consonant blends in the speech of children with cerebral palsy. *Cerebral Palsy Rev.*, 19 (6), 1958, 9-13.

One hundred and two cerebral palsied children, three to 16 years of age, were examined for their ability to produce 23 double consonant blends. The number of correct blends did not increase significantly with chronological or mental age, did not differ between the sexes, or between spastics and athetoids. The hemiplegic groups were significantly better than the quadraplegic or paraplegic group, but differences according to severity of involvement were non-significant. The number of correct blends was positively related to general speech and language ratings. (*J. L. Shapley, University of Iowa*)

IVEY, S. M., General semantics and speech correction. *South. Speech J.*, 24, 1958, 31-37.

The writer explores published works on the application of general semantics to speech correction, and concludes that with the exception of work by Wendell Johnson and Ollie Backus, too little experimentation has been done. There would seem to be applications of this discipline in teaching, interpersonal relationships, and in therapy in general. (*B. A. Landes, Texas Technological College*)

KATZ, B. E., Education of cerebral palsied children. *J. Pediat.*, 53, 1958, 467-475.

Meprobomate was used during a period of 80 weeks with 10 cerebral palsied children to ascertain whether the drug influenced their ability to learn. Evaluations were based on the child's physical status and ability to follow the regular school program. Substantial improvement in academic progress oc-

curred over the school year. The author attributes this to the alleviation of muscle spasm and involuntary or spastic movements, thus encouraging a longer attention span. Also enhancing the ability to learn was an improved, less tense environment. *(B. B. Schlanger, West Virginia University)*

Koch, F. P., A nursery school for children with cerebral palsy. *Pediatrics*, 22, 1958, 329-335.

Thirteen cerebral palsied children who received early treatment in a nursery school were evaluated five years after graduation. The author tentatively concludes that (1) intelligence is a major factor in determining the physical progress that can be anticipated in the child with cerebral palsy, (2) intelligence can be determined quite accurately in cerebral palsied children as young as 18 months of age and (3) a nursery school for cerebral palsied children should have facilities for emotional guidance of children and parents. Failures among cerebral palsied children with moderate physical involvement are attributed to mental or emotional handicaps. *(B. B. Schlanger, West Virginia University)*

Murphy, A. T., and Fitzsimons, R., Music therapy for the speech handicapped. *Elem. Sch. J.*, 59, 1958, 39-45.

An experiment with several children is described in which music therapy is integrated with a speech therapy program. Illustrations of these activities as well as a rationale for such integration in the public schools are offered. The authors list familiar song titles and sounds the songs can help children master. *(B. B. Schlanger, West Virginia University)*

Penwill, M., An experiment with a heterogeneous group in a geriatric unit. *Speech Pathol. Ther.*, 1, 1958, 73-77.

The general criteria and techniques of group speech therapy for combined dysarthric and dysphasic patients are outlined. The author feels that group therapy is a valuable supplement to individual treatment in these cases. *(P.A.Y.)*

Rittmanic, P. A., An oral language program for institutionalized educable mentally retarded children. *Amer. J. ment. Defic.*, 63, 403-407.

An oral language program which could be used by the classroom teacher of educable retarded children was developed. Utilizing group activity, the speech improvement lesson plans are designed to fill the time lag between initial examinations and eventual placement in a therapy program. After three months of intensive speech work with 13 educable children, the teacher noted improvement in oral language usage and awareness of individual speech-sound differences. *(B. B. Schlanger, West Virginia University)*

Robinsult, I. P., Perceptual difficulties and their relationship to therapy. *Cerebral Palsy Rev.*, 19 (6), 1958, 3-4, 15.

A cerebral palsied child's perception and understanding of his problems and the various therapies are important in speeding or impeding his progress. The author uses several examples of speech therapy in developing her subject. *(J. L. Shapley, University of Iowa)*

Sharry, J. J., Meatus obturator in particular and pharyngeal impressions in general. *J. prosth. Dent.*, 8, 1958, 893-898.

The author discusses the advantages and indications of the meatus obturator over the 'fixed' and 'hinged' types. The need for detailed pharyngeal impressions for the fabrication of obturators is questioned. *(A. K. Kaires, U. S. Navy)*

Silverman, S. R., The hearing handicapped: their education and rehabilitation. *Postgrad. Med.*, 23, 1958, 321-330.

This article, the seventh of a series under the section on physical medicine and rehabilitation, discusses hearing impairment as it interferes with or retards social efficiency in its broadest sense. Dr. Silverman notes the confusion existing in terminology used to define degrees of hearing impairment and suggests as a frame of reference the classification proposed by the Conference of Executives of American Schools for the Deaf. Use of the audiogram in measuring hearing loss and its relation to communication efficiency is explained. The education and rehabilitation of deaf and hard of hearing persons are considered separately; techniques and mechanical aids are mentioned briefly. In conclusion, a list is given of organized groups and agencies interested in the problems presented by impaired hearing. (Courtesy *Rehab. Lit.*)

Subirana, A., The prognosis in aphasia in relation to cerebral dominance and handedness. *Brain*, 81, 1958, 415-425.

A review and discussion of the literature

dealing with cerebral dominance and handedness is presented. A classification of patients according to type of handedness and familial history of handedness is presented and discussed. The author concludes that the more an individual is basically right-handed, the poorer is the prognosis for recovery from aphasia. *(B. S. Street, Minneapolis)*

WEBSTER, R. C., QUIGLEY, L. F., JR., COFFEY, R. J., QUERZE, R. H., and RUSSELL, J. A., Pharyngeal flap staphylorrhaphy and speech aid as means of avoiding maxillofacial growth abnormalities in patients with cleft palate. *Amer. J. Surg.*, 96, 1958, 820-822.

A procedure is described that is intended to prevent the undesirable effects of delayed closure, and also to avoid the abnormalities of growth found in early cleft palate surgery. *(J. L. Shapley, University of Iowa)*

WILSON, H. L., and DAWSON, W. R., Office management of speech problems. *Arch. Otolaryng., Chicago*, 67, 1958, 387-389.

A technique is described for the correction of voice disorders which result from habitual use of inappropriate pitch. A method of developing diaphragmatic control in speech is also presented. *(A. C. Goodman, Washington University)*

Speech Science

ARNOLD, G. F., DENES, P., GIMSON, A. C., O'CONNOR, J. D., and TRIM, J. L. M., The synthesis of English vowels. *Language and Speech.*, 1, 1958, 114-125.

'The construction and operation of a new speech synthesizer is described and an account is given of experiments designed to establish data for the successful synthesis of English vowels.' *(Authors' precis)*

BRUCE, D. J., The effect of listeners' anticipations on the intelligibility of heard speech. *Language and Speech*, 1, 1958, 79-97.

'The experiment described demonstrates the effect of prior set on the intelligibility of heard speech. Twenty subjects hear the same 12-word sentences in the presence of noise on five occasions. The sentences fall into two groups—one unprefaced by any indication of topic, the other prefaced on each occasion by a different word, which subjects are told is the topic to which the group refers. Only one of the sentences in the latter group is fully appropriate to each word given. Wherever this conjunction occurs in the order of testing, the sentence involved reaches its highest level of intelligibility. When inappropriately prefaced, sentences are misinterpreted to a considerable extent or resist interpretation.' *(Author's precis)*

FRY, D. B., and DENES, P., The solution of some fundamental problems in mechanical speech recognition. *Language and Speech*, 1, 1958, 35-58.

'This paper offers a theoretical treatment of the main problems that arise in mechanical speech recognition, based on the conclusions reached in experiments on the perception and recognition of speech sounds and on experimental results already obtained with a mechanical recognizer. In the first part of the paper, the problems of primary or acoustic recognition are dealt with; they include the "gating" problem, the choice of recognition units, and the acoustic recognition of different classes of speech sound—vowels, plosive consonants, fricative consonants and periodic continuants. The second part discusses the use of language statistics in mechanical recognition.' *(Authors' precis)*

HARRIS, K. S., Cues for the discrimination of American English fricatives in spoken syllables. *Language and Speech*, 1, 1958, 1-7.

'It has sometimes been assumed that the identification of the fricatives of American English in CV syllables depends primarily on the characteristics of the noise (*i.e.*, non-vocalic) portion of the speech sound. A second possibility is that characteristics of the vocalic portion—previously shown to be cues for the perception of other consonants—are important for the fricatives. These alternatives were tested by combining the noise from one spoken fricative-vowel syllable with the voiced portion of another. Results indicate that the important cues for the fricatives /s/ and /ʃ/ are given by the noise but that the differentiation of /f/ and /θ/ is accomplished primarily on the basis of cues contained in the vocalic part of the syllable. Similar results were obtained for the voiced counterparts of these sounds.' *(Author's precis)*

HOFFMAN, H. S., Study of some cues in the perception of the voiced stop consonants. *J. acoust. Soc. Amer.*, 30, 1958, 1035-1041.

The present experiment involves an investigation of how second- and third-format transitions and burst frequency act in various combinations to produce cues to the perception of [b], [d], and [g]. *(B. A. Landes, Texas Technological College)*

House, A. S., and Stevens, K. N., Estimation of formant band widths from measurements of transient response of the vocal tract. *J. Speech Hearing Res.*, 1, 1958, 309-315.

'As a means of determining the half-power band widths of the formants of vowel sounds, the impulse response of the human vocal tract was measured. The vocal cavities were excited by an impulsive acoustic source generated by a spark gap situated at one end of a thin probe. The probe was inserted into the mouth while the articulators assumed various vowel configurations, and the responses were recorded on magnetic tape. The decay rates for the various resonances were measured and the resonance band widths were deduced. The band-width data were compared to the experimental literature and to calculated estimates of formant band width. The sources of damping in the vocal tract were discussed briefly.' *(Authors' precis)*

McCroskey, R. L., Jr., The relative contribution of auditory and tactile cues to certain aspects of speech. *South. Speech J.*, 24, 1958, 84-90.

In order to study the relative effect of tactile cues on articulation, the articulators of subjects were anesthetized before they recorded word lists. The anesthetic affected only the sensory apparatus, not the motor nerves. Results indicate that the disruption of the subject's tactile monitoring system yielded a significant lowering of intelligibility and word accuracy compared with the lowering in intelligibility through disruption of auditory monitoring by means of delayed side-tone. *(B. A. Landes, Texas Technological College)*

Testing and Measurement

Barajas, J.-M., and Rodriguez-Adrados, F., Étude de la conduction ossiculaire dans la fenestration conservatrice au moyen de la sonde acoustique de Zollner. (Study of ossicular conduction in conservative fenestration by means of Zollner's acoustic probe.) *Rev. Laryng., Bord.*, 79, 1958, 221-226.

In conservative fenestration, as described in this study, the incus and head of the malleus are not removed, and the fenestra is made more posteriorly than the classical location over the ampulla of the horizontal semicircular canal. Tests by means of the acoustic probe of Zollner following classical fenestration show hearing levels at or higher (poorer) than the air-conduction levels. Following conservative fenestration hearing levels determined by the probe are equal to or lower (better) than the conventional bone-conduction hearing levels. *(R. Goldstein, Jewish Hospital of St. Louis)*

Baron, F., Carré, A., and Lebec, M., Audition chez le personnel des machines à bord des navires. (Hearing of machinists aboard ship.) *Ann. Oto-Laryng., Paris*, 75, 1958, 601-610.

Twenty-eight seamen with initially normal hearing were tested on various types of ships. Noise levels were measured for overall intensity and high, middle and low frequency bands. Modern ships with high noise levels of over 100 db produce serious permanent damage; older ships with lower noise levels do not. The authors estimate the zone of harmful intensity to be 85-95 db. Rapid development of hearing losses in seamen is probably due to their being confined in a small area and receiving vibrations through the ship's hull even when resting. The authors urge the adoption of protective measures. *(R. W. Albright, Arizona State University)*

Burgi, E. J., and Matthews, J., Predicting intelligibility of cerebral palsied speech. *J. Speech Hearing Res.*, 1, 1958, 331-343.

Word intelligibility and sentence intelligibility of the speech of young adult CP's were predicted about equally well by any one of several articulation measures employed in the study. *(B. A. Landes, Texas Technological College)*

Dix, M. R., and Hallpike, C. S., Discussion on acoustic neuroma. *Proc. roy. Soc. Med.*, 51, 1958, 889-897.

Otoneurological diagnoses of 95 cases who had tumors of the VIIIth cranial nerves are reviewed. The importance of tests for loudness recruitment, bone-conduction acuity, and vestibular function in arriving at a differential diagnosis are stressed. *(J. L. Shapley, University of Iowa)*

Harris, J. D., Haines, H. L., and Myers, B. S., Brief-tone audiometry. *Arch. Otolaryng., Chicago*, 67, 1958, 699-713.

This is a report of a study designed to observe if defective ears integrate energy in a manner different from normal ears. The subject listens to a series of tone-bursts and adjusts intensity until he can hear about half of the bursts. This procedure is carried out in successive trials with tones of varying duration. From this data a function is

drawn which relates threshold to tonal duration. In the authors' specific procedure, threshold is taken with a tone of 300 msec duration at a frequency for which the audiogram shows little or no loss. Threshold is then taken with shorter durations until a value of duration is observed below which the threshold shifts. This point is taken as T_o. Threshold is next taken at 1/10th T_o. The shift in threshold between T_o and 1/10th T_o describes the slope of the integration in decibels. The same procedure is then applied at a frequency for which the audiogram shows a deviation from normal.

The results and the procedures of this study are compared with that of Miskolczy-Fodor. The present study reports a shift in threshold of 9-10 db when stimulus duration is shortened to 1/10th T_o in normals. In abnormal ears, the integration data does not permit clear separation of diagnostic categories, nor is there a clear correspondence between abnormal integration and loudness recruitment. Among their conclusions, the authors report that analysis of the profiles of test results which a defective ear may show in audiometry, recruitment, integration, adaptation, speech reception, *etc.*, should allow determination of the locus of a lesion. They conclude further that the Miskolczy-Fodor test has an important place in the diagnostic clinic. *(A. C. Goodman, Washington University)*

Hess, D. A., and Stouffer, G. A. W., Jr., An attempt to determine the validity of a rating sheet for stutterers. *Penn. Speech Ann.*, 14, 1957, 3-12.

The Stutterer's Self-Ratings of Reactions to Speech Situations test was administered to 50 non-stuttering college students, and the results were compared with data previously obtained on stutterers by Oherhavy. Each subject rated himself for avoidance, reaction and frequency on 40 speech-situation items. Among the conclusions were: (1) stutterers reported significantly more avoidance and dislike of speech situations; (2) stutterers have a significantly greater tendency to avoid disliked speech situations; and (3) percentile norms in the avoidance and reaction categories are sufficiently different for stutterers and non-stutterers to justify their use as yardsticks of progress. *(A. J. Berlin, Pennsylvania State University)*

Kodman, F., Powers, T. R., Philip, P. P., and Weller, G. M., An investigation of hearing loss in mentally retarded children and adults. *Amer. J. ment. Defic.*, 63, 1958, 460-463.

Using a 30-db hearing loss criterion for pure-tone audiometry, 21 per cent of 189 subjects in an institution for the mentally retarded were found with hearing deficiencies. PGSR audiometry was suggested for untestable subjects who had mental ages between one and four years. Further investigation is recommended in which a battery of hearing tests would be used and data would be analyzed in terms of a standard hearing loss criterion. *(B. B. Schlanger, West Virginia University)*

Nober, E. H., GSR magnitudes for different intensities of shock, conditioned tone and extinction tone. *J. Speech Hearing Res.*, 1, 1958, 316-324.

The study measures the effects of shock intensity, conditioned tone intensity and extinction tone intensity on GSR magnitude. Results indicate that conditioning is effected as well with a mild shock and an audible tone as with a traumatizing shock intensity. *(B. A. Landes, Texas Technological College)*

Page, H. J., and Rutschmann, J., Notes on a technique for the determination of high-frequency hearing thresholds. *J. acoust. Soc. Amer.*, 30, 1958, 1164-1165.

There has been little done in the way of standardizing hearing thresholds at high frequencies (11-20 kc). The present pilot study makes use of a small magnet affixed to the umbo of the tympanum by which the eardrum can be made to vibrate electromagnetically. *(B. A. Landes, Texas Technological College)*

Reger, S. N., and Kos, C. M., Anatomic localization implications of the functional hearing tests. *Arch Otolaryng., Chicago*, 67, 1958, 394-402.

The authors believe that the nomenclature most frequently used to describe the results of tests of hearing 'lacks a unifying logical coherence.' They feel that a classification system based solely upon anatomic localization of pathology is less likely to result in vague generalities and loose thinking about ear pathologies and diagnoses. They suggest a classification framework based upon anatomic localization which '. . . consists of three main categories: (1) tympanic, (2) cochlear and (3) neural. (The term mediotympanic is useful until accurate localization of the lesion can be confirmed within cochlear or neural tissue.)' Brief summaries of the literature related to the differential

diagnosis of cochlear and neural disorders are presented. *(A. C. Goodman, Washington University)*

ROSEN, S., and BERGMAN, M., Auditory tests in surgery of the stapes. *Arch. Otolaryng. Chicago*, 67, 1958, 440-446.

Rosen and Bergman discuss the air-bone gap, the hearing level for air conduction and the discrimination score for speech, among other measurements of hearing, in relation to the selection of cases for surgery of the stapes. They state that any of the three surgical techniques developed by Rosen (mobilization at the neck, or the footplate, and fenestration of the oval window through the footplate) can result in closure of the air-bone gap. They conclude that the most useful tests of hearing appear at present to be the pure-tone air- and bone-conduction thresholds. *(A. C. Goodman, Washington University)*

RUDMOSE, W., Hazards of noise exposure. *Noise Control*, 4, 1958, 311-316.

Although there is no adequate method at present to predetermine susceptibility of individual ears to damage by noise exposure, the most feasible method is 'repeat audiometry,' or periodic audiometric testing of individuals exposed to noise so that high frequency losses can be determined before the damage spreads through the cochlea to the lower frequencies and affects social adequacy. *(B. A. Landes, Texas Technological College)*

SCHULZ, E., Überblick über die Entwicklung der 'objektiven' Hörprüfung. (Survey of the development of 'objective' hearing tests.) *H N O, Berlin*, 5, 1958, 140-144.

This article deals especially with the PGSR test. The theories that acoustic stimuli provoke either a stronger flow of blood or increased secretion of sweat have been disproved by Veraguths and Gildemeister. The prevention of influx of blood did not change the galvanic skin reaction. Measurements of the skin resistance depend on the size of the area of contact and on the kind and the pressure of the electrodes. Yet, under equal experimental conditions, the relative values are different from case to case and seem to depend on the tonus of the vegetative nerve system. The reflex cannot be suppressed voluntarily but can be hampered by narcotics and is missing during sleep. The center of the reflex seems to be the mesencephalon. With a change in skin resistance the pupils widen. The result of longer-lasting experiments are influenced by the fact that the reflex tires. Also in one individual the results may vary despite the use of exactly the same stimulations. Between the galvanic reflex audiometry and routine tone-audiometry there is a difference of 2.5 db in adults and 3.6 db in children. Several writers report higher differences, especially in children. Instead of a faradic shock, the writer uses a visual stimulation. *(E. Froeschels, New York City)*

SOLOMON, L. N., and FLETCHER, J. L., Survey of hearing losses among armor personnel. *J. Speech Hearing Res.*, 1, 1958, 350-358.

On the basis of group audiometry and personal history, the hearing of a large group (3099) of armored division personnel was evaluated. Results agree with those of previous studies except that less difference was found between subjects who had a history of noise exposure and those who did not have such a history. *(B. A. Landes, Texas Technological College)*

VAN HATTUM, R. J., Articulation and nasality in cleft palate speakers. *J. Speech Hearing Res.*, 1, 1958, 383-387.

The purpose of the study was to test the hypothesis that there is a relationship between judgments of nasality and judgments of articulatory accuracy in cleft palate speech. Results indicate that the two factors are essentially independent, although there is a tendency for judgments of superiority of articulation to be associated with judgments of less nasality. *(B. A. Landes, Texas Technological College)*

Memo From The National Office

SPECIAL ANNOUNCEMENT

Nationwide Study of Remedial Speech and Hearing Programs in Public Schools

On the day following the 1958 Convention, the American Speech and Hearing Association, in cooperation with the Office of Vocational Rehabilitation and Veterans Administration, sponsored a Research Conference. We are pleased to announce as another service to the membership that arrangements have been completed for a two-year nationwide study of remedial speech and hearing programs in the public schools. The Committee on Research, in cooperation with the U. S. Office of Education, prepared a proposal submitted through Purdue University for a $48,000 grant to support this two-year study. It is proposed to discover by appropriate sampling techniques and by conference of specialists in speech and hearing disabilities in the public schools and training institutions what are, in the larger sense, the current problems that are researchable in remedial speech and hearing programs in the nation's school systems, including administrative and technical problems facing persons interested in speech and hearing re-education in the school environment. The major objective will be to define unresolved problems in the field, specify which of these are capable of solution by research methods and evaluate the significance of these problems. The objectives will be to provide the Office of Education, responsible supervisors and trainers of speech and hearing clinicians, school administrators and public school clinicians with authoritative information about the field, including what appear to be general trends and departures from general practice.

A resident staff at Purdue University Speech and Hearing Clinic, in cooperation with the Public School Advisory Committee and the Committee on Research, will serve as the principal planning and evaluation board for this task. The Advisory Committee will be composed of prominent personnel from public school and college remedial speech and hearing programs.

The participation and cooperation of the membership will be appreciated and those desiring to contribute are requested to contact the National Office or the Project Director, Dr. M. D. Steer, at Purdue University.

— Kenneth O. Johnson
Executive Secretary

News And Announcements

Severina Nelson, *Editor*

Significant Trends in the Professions

Sue Earnest, of San Diego State College, who spent several months in Europe in 1956 and 1957, offers the following observations on the management of speech and hearing problems and the training of therapists in the various countries:

Responsibility for providing speech and hearing therapy is varied. In Denmark, Norway, Austria and Great Britain this service is under federal control. In Denmark and Norway the government agency is the Ministry of Social Affairs; in Austria it is under the Ministry of Social Welfare. In England and Scotland hospital speech and hearing clinics are under the National Health Service, and in schools it is under the Schools Health Service. In Germany control is by state and city; in the Netherlands it is by city. In Italy, Spain and France there is no nationwide plan.

Training of speech and hearing therapists also varies widely from country to country. In Great Britain, after completing secondary school, the trainee takes an intensive medically-oriented three-year course at special training centers, plus 150-200 hours practicum in hospitals. In Germany, in the State of Hesse, one must be a regular teacher for at least three years, then take an apprenticeship of 12 hours a week practicum, plus courses for three years. In the Netherlands an intensive two-year course follows secondary school. In Denmark and Norway one year of training above that of the regular classroom teacher includes lectures and 210 hours of practicum under a master teacher. The Swiss speech therapist takes two years of special training at one of the Institutes of Medical Pedagogy.

In Europe there is no such thing as a speech department in a liberal arts university or college. All training of speech therapists takes place outside of universities and colleges, although frequently staff is drawn from such institutions.

In Europe one is impressed by the lack of batteries of diagnostic tests in the evaluation of the handicapped child. In contrast to this tendency in the United States, the emphasis is placed on long term observation, as in England at the Percy Hedley School for Spastics three cerebral palsied children at a time along with their mothers are invited to live at the school for four days while the diagnosis is being made. At the Eeling School for the Deaf near London, parent and child reside for a two-week examination. In Denmark all expenses for mother and child are paid for such a diagnostic session of a week or more. Intelligence tests developed in the United States are frequently used.

The large variety of gadgets, wheels of fortune, puppets, dolls and games so frequently the armamentarium of speech therapists in this country are rarely seen in Europe. Less time is given to auditory stimulation, and tape recorders and record players are not much in evidence.

The tendency in many parts of Europe to send speech cases to special schools may be observed in Denmark, Norway, Germany and Great Britain. Denmark is believed to be the first to establish a state residential and out-patient school at Copenhagen in 1916 and a second one at Aarhus in 1937. Norway established a similar center at Oslo in 1919. In the East Zone of Germany, the law of 1947 provided 12 schools for speech defectives, six of which are residential. There is only one speech school in Great Britain, Moorehouse Residential School, dedicated to organic and neurological speech problems.

Great Britain is advanced over most other countries, including the United States, in

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financing speech therapy for the aged. The Camden Town Medical Rehabilitation Center in London, which is dedicated mainly to short-term traumatic and orthopedic cases, provides any adult, without cost, a balanced remedial program of physiotherapy, occupational and speech therapy. Speech re-training is also given regularly in the geriatrics units of hospitals such as that of Churchill Hospital, Oxford.

Special schools for the hard of hearing (as distinct from the deaf) may be found in Switzerland, Austria and the Netherlands. In Switzerland these are usually private and religious but still are under state control. In the Netherlands day schools are operated in Amsterdam, the Hague, Rotterdam, Groningen, Eindhoven and Arnhem.

Audiology centers are likely to be associated with ear, nose and throat clinics attached to hospitals instead of non-medical colleges and universities. The impact of the leadership of American authorities in audiology is frequently observed in Great Britain and Denmark; books by American authors are conspicuous on the shelves of these clinics.

In the area of cleft palate rehabilitation the pharyngoplasty operation, encountered rarely in the United States, is highly favored in Great Britain. Cleft palate surgery is performed at an earlier age than is customary in many American centers. Fenton Braithwaite of the Fleming Memorial Hospital, Newcastle-on-Tyne, and Pomfret Kilner (retired) of Churchill Hospital advise operation on the palate at one year. In a careful speech assessment of 117 cases operated on by Braithwaite, Muriel Morley judged only seven to have inadequate speech although no speech lessons had been given. Sub-mucous clefts are given full scale cleft palate operations.

In Denmark one observed more frequent use of prostheses which are provided free and re-fitted as the child grows older. Although the obturator is made by the dentist associated with the residential school, the fitting of the bulb is done by the speech therapist who experiments until the patient's speech is judged to be satisfactory.

Another observable trend is the influence of the Bobath technique on physical therapy and speech therapy with the cerebral palsied in the Netherlands, Belgium and England. At the Percy Hedley School for Spastics, which is under the supervision of Dr. E. Ellis, the Bobath method alone is used; here many orthopedic devices and specially constructed furniture such as stand-up tables are discarded.

The breadth of interest in speech and hearing sciences in Europe may be estimated by the attendance at the International Conference of Logopedics and Phoniatrics at Barcelona in 1956. Germany was represented with an attendance of 44; Great Britain with 20; Spain, the host, had 36, France, 14; many other countries sent one to six representatives, including those as distant as Uruguay and Argentina. Seventeen were from the United States, but many of these were former Europeans.

At the conference papers were presented in English, German, French and Spanish. Almost half of these were on voice, a large percentage of which were presented by physicians. Other topics were stuttering, aphasia, cerebral palsy speech, esophageal speech, experimental phonetics and linguistics.

The International Congress of Logopedics and Phoniatrics meets again in London, England, August 17-22, 1959. American speech and hearing therapists are cordially invited to attend. Reservations should be made immediately with Miss Peggy Carter, 46 Cannonbury Square, London N. 1., England.

News and Announcements

The First Regional Meeting of the Alexander Graham Bell Association for the Deaf, Inc., was sponsored by the Houston Council for Deaf Children, April 17-18. The program included tours to schools and rooms for the deaf and to the Houston Speech and Hearing Center, and demonstrations in teaching the deaf in the schoolroom.

Frederick E. Garbee, Ph.D., Editor, *North Dakota Speech and Hearing Journal*, invites the submission of manuscripts from other geographic areas. The contents of the *Journal* will reflect the concerns of practicing speech and hearing therapists.

Alexander W. G. Ewing, Ph.D., one of the world's foremost authorities on the education of the deaf, was knighted on February 10 by Her Majesty, Queen Elizabeth II, at Buckingham Palace.

The Speech Department of Northern Illinois University, DeKalb, has announced the opening of the Health, Speech and Hearing Services Building under the direction of Louis Lerea, Ph.D.

A report on a study of speech education in Europe, conducted by the International

Society for the Welfare of Cripples in cooperation with the International Union for Child Welfare and UNESCO, is expected to be released shortly. The study was made by Wallace W. Taylor, Ph.D., State University of New York College for Teachers, Albany, New York, and Isabelle Wayner Taylor, Ph.D., Chairman, Department of Psychology, Russell Sage College, Troy, New York. Address: Donald Wilson, International Society for the Welfare of Cripples, 701 First, New York 17, New York.

Robert West, Ph.D., has recently been appointed to the editorship of the newly created Department of Speech and Hearing of the American Lecture Series of C. C. Thomas, Medical Publishers. Dr. West invites ASHA members to submit book manuscripts in any area of speech and hearing which has important medical implications, or on any medical subject having important speech and hearing implications. Manuscripts should have literary merit and scientific value, and the authors should be persons of considerable professional reputation. Manuscripts may be sent to Robert West, Ph.D., Speech and Hearing Clinic, Brooklyn College, Brooklyn 10, N. Y.

May is Better Hearing Month. The American Hearing Society will conduct an extensive public education program in behalf of the estimated 15 million children and adults in this country directly affected by loss of hearing.

A group interested in European programming of speech correction, hard of hearing, deaf and cerebral palsy, led by Sue Earnest, Ph.D., San Diego State College, will make a 64-day tour of Europe, leaving New York June 26; visiting clinical centers in hospitals, schools, welfare institutions and national residential schools in Denmark, Germany, the Netherlands, France, Spain, Italy, Switzerland, England and Scotland; and ending the trip at the International Congress of Logopedics and Phoniatrics in London, August 17-22.

In addition to the clinical visits, the group also will visit the usual cultural centers and will enjoy the following festivals and performances: Aix-en-Provence Music Festival, Bayreuth Wagner Festival, Edinburgh Festival, Salzburg Festival, Shakespeare at Stratford-on-Avon, and opera at the Baths of Caracalla, Rome, and in Verona. Address: Sue Earnest, 1770 Ft. Stockton Drive, San Diego 3, California.

The Institute of Radio Engineers has arranged an affiliate plan whereby members of selected technical societies are entitled to become affiliated with and receive the publications of some of the Professional Groups without joining the I.R.E. The American Speech and Hearing Association has been approved for affiliation with the Professional Group on Information Theory (PGIT). Dues for this group are $3.00, plus $4.50 to I.R.E. (rather than the usual fee of $10.00). Address: E. R. Kretzmer, Professional Group on Information Theory, The Institute of Radio Engineers, 1 East 79 Street, New York 21, New York.

The Division of Special Education, Department of Public Instruction, Pennsylvania, has been recently reorganized under the title of Bureau of Special Pupil Services, with Kathryn Dice, Ph.D., as Director. The Bureau staff consists of personnel in the following areas: mentally retarded educable and trainable, physically handicapped, visually handicapped, guidance and testing, school nursing and dental hygiene, deaf and hard of hearing, and speech handicapped. L. Deno Reed, Ph.D., Supervisor of Speech and Hearing Programs, is responsible for activities in the areas of speech and hearing handicaps.

Thirteen members of the World Commission on Cerebral Palsy met at Oriel College, Oxford, England, in the fall of 1958. The Commission was established by the International Society for the Welfare of Cripples under the chairmanship of C. D. S. Agassiz, United Kingdom, with B. Magnussen of Denmark serving as Vice-Chairman. Its deliberations were designed to provide for the coordination and mutual exchange of information and to stimulate increased interest in the development and improvement of research, techniques and rehabilitation services in the field of cerebral palsy.

Appointment of Donald A. Harrington, Ph.D., Associate Professor of Speech at the University of Florida, to the newly created post of Specialist in Speech and Hearing in the Office of Education has been announced by Lawrence G. Derthick, U. S. Commissioner of Education. Dr. Harrington is a native of Keewatin, Minnesota. In this new post, to which he reported February 1, Dr. Harrington will be concerned with school programs for children and youth with impaired speech and hearing. He will be a member of the Section on Exceptional Chil-

dren and Youth of which Dr. Romaine Mackie is Chief.

The Florida Speech and Hearing Association has issued its first *Flasha Bulletin*, naming D. Kenneth Wilson, Ph.D., as President and McKenzie Buck, Ph.D., as the chief 'round-up' man. By this time, the Association will have had its spring meeting in Tampa. Kenneth Johnson, Ph.D., Executive Secretary of the American Speech and Hearing Association, has sent congratulations to the newly organized Association, indicating the hope that some time in the near future ASHA will have the mechanism whereby affiliation with state groups and representation for state groups can be managed.

The omnibus Housing Bill, S. 57, has one provision which should be noted with special interest: provision is made for a new program of long-term, low-interest loans for laboratories, classrooms, libraries and other academic facilities. The initial authorization proposed is $125 million.

The Donald Dabelstein Memorial Fund has been established by the Office of Vocational Rehabilitation as an expression of the integrity and dedicated service offered to the cause of rehabilitation by Dr. Dabelstein as director of the public program in his home state of Minnesota and later as a member of the staff of the Federal Office. The contributed funds will be turned over to the University of Minnesota to be administered for a memorial lecture on rehabilitation. Checks, payable to the Donald Dabelstein Memorial Fund, may be sent to the Office of Vocational Rehabilitation, Department of Health, Education, and Welfare.

The Speech and Hearing Clinic at Northeastern State College, Tahlequah, Oklahoma, directed by Earl W. Blank, Ph.D., has moved into a new, brick, one-story building, equipped through a generous gift from the Vocational Rehabilitation Federal Grant. The equipment includes an Allison 21B audiometer, a psychogalvonometer, sound treated testing room for hearing aid evaluations, Beltone portable audiometers, sound scribers, tape recorders, record players, audiovisual equipment, sand table, creative play equipment, phonetic games, a generous supply of psychological testing material and reading laboratory equipment.

The Clinic now grants a Standard Special Education Certificate in Speech and Hearing Therapy. In addition, the Clinic has agreements with the Vocational Rehabilitation Division; Crippled Children's Commission; Oklahoma School for the Blind; Sequoyah Vocational Indian School; and the Tahlequah public schools.

Language and Speech, edited by D. B. Fry, Department of Phonetics, University College, London, England, is a new journal published quarterly for the purpose of discussing fundamental problems of language and speech.

The Cleveland Health Museum has opened a series of exhibits, *A New Look on Life*, as part of its $100,000 Development Program: the 'Flame of Life' exhibit explains how the body uses raw materials—food, water, oxygen and carbon dioxide—to produce energy, which in turn is converted into functions like circulation, nerve communications, motion; the 'Endless Chain of Life' describes and illustrates the stages of man's life—infant, child, adolescent, parent, grandparent; 'Juno,' the transparent woman, has been placed in a new theatre; an enormous brain, in the new lobby, shows the thought processes with flashing lights; a redesigned 'Wonder of New Life' room, which contains the famous Dickenson models of human birth, has a display of heredity and mental health in the family to which the new child comes.

The First International Medical Conference on Mental Retardation, The Eastland Hotel, Portland, Maine, July 27-31, 1959, will feature an array of medical authorities speaking on subjects such as: brain anatomy and retardation, autonomic nervous system and brain activity, reticular system, phenylketonuria, congenital malformations of the central nervous system, birth injury, asphyxia of the newborn, infections, mongolism, erythroblastosis, surgical treatment in mental retardation, kernicterus, childhood schizophrenia, autism, behavior problems in brain damage. Address: Ella Langer, M.D., Committee on Finance and Arrangements, Department of Health and Welfare, State House, Augusta, Maine.

Summer Programs, 1959

Adelphi College has planned a summer workshop in Speech and Hearing Rehabilitation for undergraduate and graduate credit under the directorship of Leola S. Horowitz, Speech and Hearing Center. Graduate courses will be offered in phonetics, auditory training and lip reading,

and clinical practice.

Alabama College announces course offerings in the speech correction curriculum under the chairmanship of Laura F. Wright, Ph.D., June 8-July 17. Practicum will be available at the recently completed Residential Speech and Hearing Clinic under the direction of Vivian I. Roe.

University of Alabama through the Department of Speech is planning a comprehensive therapy program for children and adults: a five-week session, June 8-July 10, will offer therapy programs for children with speech disorders resulting from cerebral palsy and hearing loss; a four-week session for adults will begin July 20. The program will be under the direction of Ollie Backus, Ph.D., assisted by Betty Webster and Lois Brien, University of Iowa.

Bradley University, Peoria, Illinois, will hold two summer sessions: the first session, June 8-July 11, will include courses in acoustical training, lip reading and speech clinic; the second, July 13-August 15, will include courses in public school therapy, speech correction for classroom teachers, and a workshop on speech improvement for teachers and therapists.

Bowling Green State University, Ohio, will sponsor, under the direction of Melvin Hyman, Ph.D., a workshop on the speech, hearing and vision problems of children in association with the Ohio Department of Health and Education.

Brigham Young University Speech and Hearing Clinic will conduct, under the direction of Merlin J. Mecham, Ph.D., a workshop on speech for the cerebral palsied in association with the Department of Special Education.

University of California, Santa Barbara, in cooperation with the Society for Crippled Children and Adults, will sponsor a Children's Clinic under the direction of Edwin R. Schoell, Ph.D.

Central Institute for the Deaf, affiliated with Washington University, St. Louis, will include in its program of lectures and demonstrations a course in 'The Assessment and Teaching of Aphasic Children.' Six credits from the Graduate School of Washington University will be given to students, according to Frank R. Kleffner, Associate Director, Central Institute for the the Deaf.

University of Colorado has planned a workshop under Jon Eisenson, Ph.D., for the second summer session, July 21-August 21.

Gallaudet College will offer graduate courses for teachers of the deaf under the supervision of Robert Frisina, Ph.D., Director, Hearing and Speech Center. Opportunities for diagnostic and training services, clinical practice related to teaching the hearing impaired, and research in hearing and deafness are included in the program. Address: Gallaudet College, 7th Street and Florida Avenue, N.E., Washington 2, D.C.

University of Illinois will feature its Residential Summer Clinic for the hard of hearing, post-operative cleft lip and palate, and cerebral palsied teen-age children in sponsorship with the Division of Services for Crippled Children, June 22-August 1. James Kelly, Ph.D., Thayer Curry, Ph.D., and Jerry Griffith, M.S., will be directing supervisors. Half-time graduate assistantships are available at $400 for the six-week program, as well as remission of fees. The University Speech Clinic, directed by Severina E. Nelson, Ph.D., and the Hearing Center, directed by Thayer Curry, Ph.D., will maintain the usual graduate courses in speech pathology and audiology and service approximately 100 clients during the eight-week summer session. For information, address: Karl Wallace, Head, Department of Speech, University of Illinois, Urbana, Illinois.

The State University of Iowa, in conjunction with the Office of Vocational Rehabilitation, will sponsor a one-week workshop and conference on cleft palate during the week of June 23. The workshop sessions will include lectures from national authorities in the fields of medicine and dentistry as well as in speech pathology and audiology. Address: James N. Neelley, Department of Speech Pathology and Audiology, University of Iowa, Iowa City, Iowa.

University of Kansas announces courses in speech correction and audiology to be offered on the University and Medical School campus under the supervision of Margaret C. Byrne, Ph.D., Director, Speech and Hearing Clinic. All clinics will be open for observation and clinical practicum.

Los Angeles State College is listing Wilbert Pronovost, Ph.D., as visiting professor,

beginning June 22. Two courses, Introduction to Speech Therapy and Speech Problems in the Classroom, will be taught by Dr. Pronovost.

University of Maine will conduct a Diagnostic Speech and Hearing Clinic, June 27-August 14, under the direction of James Gillespie.

University of Miami School of Medicine will offer the fifth post-graduate course in Esophageal Speech and Organic Voice Problems, under the direction of Nathaniel M. Levin, M.D., F.A.C.S., June 15-26. Government grants for training, valued at $250 each, for tuition and traveling expense, are available. Address: Homer F. Marsh, M.D., University of Miami School of Medicine, Coral Gables, Florida.

Montana State University, Missoula, will offer courses in speech pathology, audiology and special education, under the direction of Charles D. Parker, Ph.D. The Speech and Hearing Clinic will conduct diagnostic clinics, June 25, July 2 and July 9. A clinic for children and adults will be held June 17-July 16.

Montclair State College, Upper Montclair, New Jersey, will provide clinical services for a maximum of 75 children and a graduate course in advanced speech pathology, June 29-August 7. The program is directed by Harold M. Scholl, Ph.D., Co-ordinator of the Speech and Hearing Center.

North Dakota Agricultural College will provide diagnostic and therapeutic services as well as courses in speech pathology, under the direction of George M. Siegal, June 9-July 17. The courses will lead to the completion of the B.S. and M.S. degrees.

Northwestern University is presenting through its Department of Communicative Disorders a program in audiology, language disorders and speech pathology. Educational as well as clinical audiology will be represented. The work in language disorders will include aphasia and the training of brain-damaged children. Speech pathology will be geared to public school teachers as well as clinical workers. Special training facilities are to be offered for those interested in cerebral palsy and cleft palate. A symposium on Speech and Language Problems related to Neurological Disorders will feature visiting specialists. The regular program of clinical services, research, and demonstration of teaching will be continued during the six weeks session, June 20-August 1, and for the eight weeks session, June 20-August 15.

The Pennsylvania State University, in cooperation with the Pennsylvania Society for Crippled Children and Adults, is underwriting the Harmony Hall Speech and Hearing Program for pre-school children and parents, June 15-26. Harmony Hall, a summer residential center located near Harrisburg, will take care of 20 children between two and six years of age. Mothers will accompany the children and take part in the educational and diagnostic program. A 'Father's Week-end Session,' at a fee of $3.00 per day, is planned for June 19-21. Professional personnel from the Pennsylvania State University Speech and Hearing Clinic, the University of Pittsburgh Eye and Ear Hospital Audiology Department, the Pennsylvania Academy of Ophthalmology and Otolaryngology, and the Division of Special Education of the Pennsylvania Department of Public Instruction will assist with the programming. Address: Bruce M. Siegenthaler, Speech and Hearing Clinic, Pennsylvania State University, University Park, Pennsylvania.

Purdue University will offer a workshop in Speech and Hearing Therapy, June 8-26, designed especially for classroom teachers and nurses. The University is planning also a Pre-College Institute for girls who have completed their junior year in high school. Sponsored by Psi Iota Xi Sorority, this recruitment project awards scholarships, providing room, board and tuition for one week on the Purdue campus. Lectures and participation in the Children's Clinic are arranged by Betty Ann Wilson, Ph.D.

San Jose State College's program will include special offerings in Voice Disorders, Stuttering, and Problems in Diagnosis and Therapy, as well as a six weeks children's clinic. In addition, there will be a symposium in Speech Correction and Hearing with outstanding authorities as guest lecturers.

University of Southern California, Los Angeles, has planned a special seminar for experienced speech and hearing therapists in the public schools under the directorship of Victor P. Garwood, Ph.D. Charlotte Wells, Ph.D., and Harry Heltman, Ph.D., will be guest lecturers during the six weeks term.

Southern Illinois University's annual sum-

mer camp for children, with the sponsorship of the Division of Services for Crippled Children, will be held under the direction of Isaac P. Brackett, Ph.D. Therapy will be given to children with hearing problems and with organic speech disorders.

Southern Methodist University announces courses in speech correction, audiology and teaching of the deaf, June 5-July 16, under Peggy Harrison, Ph.D., Director of Speech and Hearing Clinic. Clinical practice in speech and hearing will be available.

Southwest Texas State Teachers College, San Marcos, will hold two summer clinics for parents and children with speech and/or language disorders, and for classroom teachers of such children, in conjunction with college courses for speech therapists, June 2-July 15. Hearing deficits will be emphasized in the session, July 14-August 22. Temple Fay, M.D., will be visiting consultant June 8-13. Mary Kay Van Wyk, Principal of Oral School, Fort Lauderdale, Florida, will be visiting lecturer, July 14-August 22. The program will be supervised by Empress Y. Zedler, Ph.D., Director of Special Education.

Stanford University is planning through its Department of Speech Pathology and Audiology to offer a program of courses, June 22-August 15, under the directorship of Hayes A. Newby, Ph.D. Scholarships are available.

Syracuse University will operate for its nineteenth year the Summer Resident School for the treatment of children with speech and hearing problems under the direction of Charles V. Mange, Ph.D. Course offerings, under the supervision of Louis M. DiCarlo, Ph.D., are available June 29-August 7. Syracuse University's twenty-fifth Series of Summer Conferences for Educators will present Spencer F. Brown, M.D., Ph.D., July 16, and Frederic L. Darley, Ph.D., July 17.

Vanderbilt University and Peabody College, in affiliation with the Bill Wilkerson Hearing and Speech Center, announce a program in audiology, speech pathology and education of the deaf at Peabody College, June 8-August 14. A series of lectures by prominent persons in the speech and hearing field has been planned. Special opportunities include course work and practicum in aphasia, post-laryngectomy speech, hospital consultation, nursery and pre-school programs.

University of Washington will offer a study and recreation experience in speech and hearing therapy with children having hearing loss and post-operative cleft palate and lip. The first term, June 22-July 22, will have specialized course work on the campus; the second term, August 12-29, will include supervised clinical practice at Camp Coeur d'Alene in the heart of the Coeur d'Alene mountains and on the Lake. Traineeships, offering complete maintenance at camp, transportation allowance and recreational opportunities, are available. Address: James A. Carrell, Speech and Hearing Clinic, University of Washington, 1320 Campus Parkway, Seattle, Washington.

Western Reserve University will have as guest lecturer Virgil Anderson, Ph.D., who will teach courses in Voice Pathology and Articulatory Disorders, June 22-August 1.

The University of Wisconsin will conduct summer residential clinics for cleft palate, aphasoid, cerebral palsied, stuttering and hard-of-hearing children. Each of these clinics carries two credits and requires 10 hours of clinical practicum per week. A symposium in Speech Pathology and Audiology will also be offered in conjunction with the University of Wisconsin Federal Office of Vocational Rehabilitation Training Program. In addition to regular class lectures conducted by Professor Arnold E. Aronson, formal lectures, class discussion and clinical demonstrations will be given by Bryng Bryngelson, Ph.D.; E. Thayer Curry, Ph.D.; G. Paul Moore, Ph.D.; Mildred Schuell, Ph.D.; S. Richard Silverman, Ph.D. The program is under the direction of John V. Irwin, Ph.D., Director, Speech and Hearing Clinic, University of Wisconsin.

The following institutions will offer course work which may be used in part to meet the certification requirements in speech and hearing: Abilene Christian College, Alabama Polytechnic Institute, Boston University, Catholic University of America, Florida State University, University of Nebraska, Mississippi Southern College and University of North Dakota. The directors of the speech and hearing clinics at these institutions will provide information upon request.

Edna Hill Young and Sara Stinchfield Hawk will conduct a workshop, July 6-July 24, for the training of teachers in the use

of the Moto-Kinesthetic Method of speech correction. A limited number of scholarships will be available. Applications should be made early. Address: Mrs. Edna Hill Young, 2342 Scarff Street, Los Angeles 7, California.

Programs

The National Defense Education Act of 1958, Public Law 85-864, is still top news in the world of education. According to *Higher Education and National Affairs*, issued by the American Council on Education, U. S. Department of Health, Education, and Welfare, Federal funds totalling $6 million have been allocated by the United States Commissioner of Education, Lawrence G. Derthick, to 1227 colleges and universities in all 49 states for the establishment of the National Defense Students Loan Programs. The President's budget proposes a supplemental appropriation of $24 million for the remainder of this fiscal year, which would provide an additional 26,000 loans at the $1000 maximum.

A number of universities have been offering these fellowships as granted under Title IV of the Act. The first grants offered will take care of those interested in the Ph.D. degree, offering $2000 for the first year, $2200 for the second and $2400 for the third year, with an additional $400 per year for each dependent. These first fellowships were issued March 5, 1959, and may be applied for at various universities.

Probably the item most important to members of ASHA occurs under Title VII, which allows for funds to conduct, assist and foster research and experimentation in more effective utilization of television, radio, motion pictures and related media for educational purposes. As stated under this Title, new and more effective techniques should be developed: (1) for utilizing and adapting motion pictures, video tapes and other audio-visual aids, film strips, slides and other visual aids, recordings (including magnetic tapes) and other auditory aids, and radio or television program scripts for such purposes; (2) for training teachers to utilize such media with maximum effectiveness; (3) for presenting academic subject matter through such media.

An Advisory Committee on New Educational Media, consisting of the Commissioner, a representative of the National Science Foundation and 12 appointed persons, shall advise, consult and make recommendations to the Commissioner on basic policy, review all applications for grants-in-aid for projects of research, and review all proposals by the Commissioner. Provision is made also for the assistance and advice of experts in these particular areas of investigation. The sum of $3 million has been appropriated for the fiscal year ending June 30, 1959; and the sum of $5 million for each of the three succeeding fiscal years for carrying out the provisions of this Title.

According to Kenneth Johnson, Executive Secretary of ASHA, these funds are available through the Research Division of the U. S. Office of Education, Department of Health, Education, and Welfare, Washington 25, D. C. Address: William Asher, Ph.D., of that office.

The Third Congress of the Deaf, to be held in Wiesbaden (see Meetings), will offer a survey of the development in the fields of vocation, education, medicine and psychology. The World Federation of the Deaf, which sponsors this Congress, is an international, non-political organization founded on the principles of the Universal Declaration of Human Rights and the Charter of the United Nations, from which latter organization it has been granted Consultative Status with the United Nations Organization for Education, Science and Culture.

The Scientific Section, a permanent advisory board of W.F.D., will meet in plenary session during the World Congress, aiming to coordinate research on the deaf and its concomitant handicaps in order to prevent deafness. The work of the Section is divided into various Commissions: medical, audiological, psychological, vocational training, social rehabilitation, educational. Registration forms should be received by May 31, 1959. Address: Organization Büro für den III. Weltkongress der Gehörlosen, Deutscher Gehörlosen Bund, Gabelsbergerstrasse 2, Frankfurt am Main, Germany.

At the crossroads of the world, the Panama Canal Zone, a speech correction program has been established as a part of the new special education program initiated in September 1957. One speech correctionist has started her duties and additional personnel eventually will be hired to meet the need in the Canal Zone School System: for those children of United States citizens employed by the Panama Canal Zone, the correctionists will be recruited from the United States; for those whose parents are Panamanian citizens, two teachers have been recruited from the Latin school teachers

and sent to the States for training in speech and hearing. They will conduct speech correction classes in Spanish.

The United Cerebral Palsy Research and Education Foundation announces the deadline dates for research and training grants as March 15 and September 15 each year. Investigators interested in studying problems in the behavioral sciences relating to cerebral palsy should address Dr. Brewster S. Miller, Director of Research, United Cerebral Palsy Associations, Inc., 321 West 44th Street, New York 36, New York.

The Conference Board of Associated Research Councils through the Committee on International Exchange of Persons is announcing the South-East Asia Treaty Organization Research Fellowship Program for 1959-60. The SEATO program encourages study and research, preferably leading to publication of such social, economic, political, cultural, scientific and educational problems as will give insight into the present needs and future development of the Treaty area. Candidates may be from member states (Australia, France, New Zealand, Pakistan, the Philippines, Thailand, the United Kingdom and the United States) and should plan to undertake research in SEATO countries situated within the Treaty area (the area of South-East Asia, including the entire territories of the Asian parties, and the general area of the South-West Pacific, not including the Pacific area north of 21°30′ north latitude). Grants are extended for well-established scholars, who must have shown special aptitude and experience for carrying through a major project of research; will provide a monthly allowance of $400 and tourist-class return air travel to the country of research; and will be authorized for periods of four to 10 months. Address the above Conference Board, 2101 Constitution Avenue, Washington 25, D. C.

The Chase Manhattan Bank Foundation, under the chairmanship of John J. McCloy, has started a program of financial aid to education by issuance of grants to (1) selected universities; (2) state and regional associations representing smaller liberal arts colleges; (3) colleges, universities and independent secondary schools by matching gifts contributed by individuals on the staff of The Chase Manhattan Bank. Annual grants of $100,000 will be made each year without restriction to 10 universities widely recognized as centers of learning. The pamphlet, *A Program for Aid to Education*, may be secured by addressing Secretary, Donations Committee, Chase Manhattan Bank Foundation, 18 Pine Street, New York 15, New York.

Meetings

Acoustical Society of America; Ottawa, Canada; May 14-16, 1959.

American Hearing Society; Miami Beach, Florida; June 9-12, 1959.

American Instructors of the Deaf; Colorado Springs, Colorado; June 28-July 3, 1959.

Eleventh Congress of International Association of Logopedics and Phoniatrics; London, England; August 17-22, 1959.

Third World Congress of the Deaf; Wiesbaden, Germany; August 22-26, 1959.

Third International Congress on Acoustics; Stuttgart, Germany; September 1-9, 1959.

Acoustical Society of America; Cleveland, Ohio; October 22-24, 1959.

American Speech and Hearing Association; Cleveland, Ohio; November 11-14, 1959.

Tenth Annual Conference of United Cerebral Palsy; Hotel Saxony, Miami Beach, Florida; November 20-22, 1959.

The Society of Hearing Aid Audiologists; La Salle Hotel, Chicago, Illinois; October 9-10, 1959.

Fourth Inter-American Conference on Rehabilitation; San Juan, Puerto Rico; May 20-23, 1959.

American Medical Association, Section on Laryngology, Otology and Rhinology; Atlantic City, New Jersey, May 8-12, 1959.

International Society for Welfare of Cripples, Mediterranean Conference on Rehabilitation; Athens, Greece; May 9-13, 1959.

Inter-American Society of Psychology; Rio de Janeiro, Brazil; August 16-21, 1959.

Canadian Otolaryngological Society; Sheraton-Brock Hotel, Niagara Falls, Ontario, Canada; October 9-10, 1959.

American Academy of Ophthalmology and Otolaryngology; Palmer House, Chicago, Illinois; October 10-15, 1959.

Assistantships, Scholarships, Fellowships

The University of Connecticut. Clinical Assistantships: University Speech and Hearing Clinic and Newington Hospital for

Crippled Children. Stipend $1327 for academic year; 20 hours per week. Address: Robert Hejna, Department of Speech and Drama, University of Connecticut, Storrs, Connecticut.

University of Michigan. Graduate Assistantships: Speech Clinic. Areas: Adult, Children, Dysphasia, Examining, Hearing, Student Clinic, Research in Language Retardation in Children. Stipend per semester for Master's degree candidates, $690; first year doctoral, $825; second year, $875; third year, $925. Twenty hours per week or less. Summer session stipends are approximately half of those for the regular semester.

Northern Illinois University. Assistantships: Speech and Hearing Clinic. Six-week summer speech and hearing residential program. Graduate credit may be earned. Address: Louis Lerea, Speech and Hearing Clinic, Northern Illinois University, DeKalb, Illinois.

Ohio University. School of Dramatic Art and Speech. Scholarships: tuition and registration fees are waived.

Graduate Assistantships on Master's level: $1600 for nine months, with possibility of reappointment for a second year of study with stipend of $1800; 18 hours per week.

Teaching Fellowships on Doctoral level: $2000-$2800 for nine months enrollment. Stipend depends on training and experience; 18 hours per week.

Graduate Fellowships under National Defense Education Act of 1958: $2000 for first year, $2200 for the second and $2400 for the third. Address: Claude E. Kantner, School of Dramatic Art and Speech, Ohio University, Athens, Ohio.

Vanderbilt University. Training Fellowships: Division of Audiology and Speech of the School of Medicine. Clinical program for Master's degree; $1200-$1600 for 12 months; tuition waived. Address: Freeman McConnell, The Bill Wilkerson Hearing and Speech Center, 19th Avenue South, Nashville 12, Tennessee.

University of Wisconsin. Graduate Appointments, Teaching Assistantships, Research Assistantships, Fellowships, Scholarships: Department of Speech. Speech Pathology and Audiology at Master's and Doctor's levels. Curriculum extends from September through the summer session.

Traineeships: under sponsorship of U. S. Office of Vocational Rehabilitation. Address: John V. Irwin, Speech and Hearing Clinic, University of Wisconsin, Madison, Wisconsin.

Materials

Pamphlets. The American Council on Education has scored professionally with a 30-page recruitment pamphlet *College Teaching as a Career,* designed to attract superior students to the college teaching profession. A group of distinguished teachers—Fred M. Hechinger, Mark Van Doren, Reuben G. Gustavson, T. V. Smith—have described with insight the pleasures and satisfactions which teaching can offer. This publication, supported by a grant from the Ford Foundation, will have a free distribution of 175,000 copies (over 100,000 copies have already been issued) and is designed to supplement programs with the same objective sponsored by other governmental and non-governmental agencies: fellowships for 1000 prospective college teachers supplied by the National Defense Education Act of 1958; 1000 fellowships from the Woodrow Wilson Fellowship Foundation; 2000 predoctoral fellowships from the National Science Foundation.

The American Council on Education is distributing *Major Fields for Graduate Study Leading to Ph.D. Degrees* as a supplement to *A Guide to Graduate Study.* The former pamphlet includes a tabular index which groups 600 Ph.D. programs into 68 areas by the use of four tables: humanities, biological sciences, physical sciences and social sciences. *Major Fields,* 25¢ per copy; *The Guide,* $5.00 per copy. Address: American Council on Education, 1785 Massachusetts Avenue, N. W., Washington 6, D. C.

The President's Review from *The Rockefeller Foundation Annual Report for 1957* summarizes the distribution of appropriations totaling $42,798,916. According to Dean Rusk, President, during the year of 1957, 532 persons from 53 countries held Rockefeller Foundation Fellowships. The holders of these fellowships pursued their advanced training or research in 104 institutions in 20 countries.

Government Programs in International Education, authored principally by Charles A. Quattlebaum, has been issued as the 42nd Report by the Committee on Government Operations of the House of Representatives. The book (250 pages) contains a summary of the United States Gov-

ernment's own programs, a listing of international programs to which the Government contributes and reports on programs of USSR and other countries. Copies may be obtained without charge as long as the supply lasts. Address: Clerk of the International Operations Subcommittee, Committee on Government Operations, House of Representatives, Washington 25, D. C.

An 'Open Letter to Hearing Aid Dealers' by Charles R. Schiefer has been published in the January *Newsletter* of the St. Louis League for the Hard of Hearing. According to the author, the letter has had some beneficial influence in integrating the professional relationships between the hearing aid dealer and the audiologist evaluating the hearing loss. Address: St. Louis League for the Hard of Hearing, 4527-29 Westminster Place, St. Louis 8, Missouri.

College Teaching by Television is a report of a Conference on Teaching by Television in Colleges and Universities held at Pennsylvania State University. The publication is sponsored by the University and the American Council on Education Committee on Television; $4.00 per copy.

Let's Play Talk, by Robert L. Mulder, Ph.D., Western Oregon Cooperative Speech and Hearing Center, Oregon College of Education, Monmouth, is a handbook for parents and teachers who wish to help children to better speech.

The Department of Public Instruction in Bismarck, North Dakota, has issued a booklet, *Speech Therapy in the Public Schools.* Miss Janet M. Smaltz, who prepared the material, outlines instructions for establishment and maintenance of a speech correction program.

The Division of Exceptional Child Education, Florida State Department of Education, has released a publication entitled *Pooling Our Ideas.* Methods, materials and reading are compiled to aid in the teaching of exceptional children.

Psychological Reports and *Perceptual and Motor Skills* (PMS) for 1959 are available to members of ASHA for $10, half the regular price; either one separately may be obtained for $5 for the year. Address: *Psychological Reports* and *Perceptual and Motor Skills,* Box 1441, Missoula, Montana.

The current *Summer Placement Directory* is now available from The Advancement and Placement Institute, Box 99K, Station G, Brooklyn 22, New York.

Over 100 books, workbooks, charts and other teaching aids in the specialized field of speech and hearing are described in the new book list released recently by the Alexander Graham Bell Association for the Deaf. Included are books on audiology, audiometry, lip reading, language, speech, and psychology of the deaf. Single free copies of the list may be obtained by writing to the Association, 1537-35th St., N.W., Washington, D. C.

Since 1955, the Beltone Institute for Hearing Research has been publishing a series of *Translations,* prepared for the benefit of those persons in this country who are professionally concerned with hearing problems but who are not rapid readers of all the languages in which research is being reported. Copies of these translations will be sent without charge to any library or interested individual. Address: Circulation Manager, *Translations of the Beltone Institute for Hearing Research,* 2900 West 36th Street, Chicago 32, Illinois.

Rehabilitation Literature, published by National Society for Crippled Children and Adults, 2023 W. Ogden Avenue, Chicago 12, Illinois, is intended as a monthly reference file that will document and index current publications in various professional fields relating to disabilities and handicapping conditions. Subscription, $4.50 per year.

Talkalong Products has published a six-way speech game, 'Fletchers,' mainly for the correction of f, l, th, r, s. Words have been selected from nationally accepted primary word lists for children in grades two to six; $1.50 per game. Address: Talkalong Products, Box 444, Monterey, California.

Fonetikit, by Robert Gillen, Assistant Professor of Speech, Los Angeles State College, is an auditory training method for the student of American phonetics, particularly those having difficulty with auditory discrimination. Discussion of phoneme theory, vowels, consonants, cognates, glides and syllabics. Demonstration tape gives examples of all sounds discussed plus practice transcription. Each kit $4.75. Tape alone, $4.50; extra texts, 50¢ each. Add 25¢ for mailing. In California add 4% sales tax. Address: Bookstore, Los Angeles State College, 5151 State College Drive, Los. Angeles 32, California.

Data on the 'Films on Audiology' (*J. Speech Hearing Dis.*, 23, 1958, 615-618) have been brought up to date and are available with reprints of the complete list from the ASHA National Office, 1001 Connecticut Ave., N.W., Washington 6, D. C.

Necrology

Lydia Newton, Western regional representative of the National Society for Crippled Children and Adults, was killed instantly January 8 near San Francisco when her car was struck by a truck.

Mrs. Newton, a member of the American Speech and Hearing Association, joined the staff of the National Easter Seal Society in 1952 as program consultant. She was appointed consultant to 11 Western state societies in January 1957. Previously, she was program director for the Arizona society and a consultant in speech, hearing and special education. Mrs. Newton helped establish and expand programs for the crippled in the Arizona departments of health, welfare and education. In fashioning the first legislation for education of exceptional children in the state, she played a prominent part, and she also established the first courses in the field at the University and State College.

Born Lydia Eugenia Hartman September 1, 1912, in North Carolina, Mrs. Newton was a graduate of Louisburg (N.C.) College for Women. She received a B.S. degree at Northwestern University and an M.A. in speech at the University of Michigan.

Harriet Montague, 74, teacher of the deaf and staff member of the John Tracy Clinic, died March 7 in Los Angeles. She had been hospitalized since February 19, when she fractured her hip in a fall. Death was attributed to a stroke.

Mrs. Montague had been deaf since the age of 18. A letter to Dr. Alexander Graham Bell, who arranged for her to take lessons from his deaf wife's instructor, helped start her career. She joined the Tracy Clinic in 1945. As director of the clinic's correspondence course, she enrolled more than 10,000 families in the United States and 57 foreign countries. She was the author of two books on lip reading.

Errata

'Current Practices and Trends in Speech Correction' by Elizabeth W. Reeves, February 1959.

The requirements for the certification of speech therapists at present in effect in Nevada and New York are outlined in 'Speech Therapy in the Public Schools: State Legislation and Certification,' pp. 127-143 of this issue.

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CLINICAL CERTIFICATION

CLINICAL CERTIFICATION DATES

Three certification dates are now being used: November 1, March 1 and July 1. The applicant should take into consideration that after the Chairman's Office has the application in complete form and ready to send to the Committee for final evaluation it may take from four to six weeks to accomplish this. Although the certification date may be November 1, March 1, or July 1, this does not mean that the applicant will receive word immediately, because some time elapses before the certificate can be made and mailed to the candidate. Because the certification process requires time, the candidate is urged to make application early enough to allow the time needed for processing before any specified certification date. If the application is not complete when sent to the Chairman's Office, considerable correspondence may be necessary before the application is ready for final evaluation.

REPORTING OF EXPERIENCE

According to Council action taken at the 1958 Convention of ASHA in New York City, pre-registration of paid professional experience will not be required.

According to the requirements for certification, each year of paid professional experience beyond the academic requirements for the basic certificate must be reported at the end of the year of experience. The applicant must secure a sponsor with the advanced certificate in speech and/or hearing (according to the area or areas in which he is applying) who will certify at the end of the year on a Sponsor's Report form that the experience has been completed satisfactorily.

Applicants for provisional basic certification in speech or hearing may file application for certification at the beginning of the year of experience and should submit the Sponsor's Report at the close of the year of experience, as in the past.

PHONETICS REQUIRED

All applicants filing applications after January 1, 1961, will be required to submit phonetics as a required course in the Basic Area. Such a course should be concerned with phonetic science and not with personal speech improvement. This requirement does not apply to grandfather (course work completed prior to June 15, 1952) applications.

SPONSOR PRIVILEGE IN HEARING

No applications for Sponsor Privilege in Hearing will be accepted after January 1, 1960, in accordance with action taken by the Executive Council at the 1958 Convention of ASHA.

—Ruth B. Irwin, *Chairman*
Committee on Clinical Certification

Examining Committee For Certification In Hearing: 1958 Report

The Examining Committee for Certification in Hearing has functioned in its primary role of preparing and conducting the required examination for completion of requirements for Advanced Certification in Hearing since its inception in 1954. During the period 1955-1958, the names of 13 candidates have been received by the Committee from the Chairman of the Committee on Clinical Certification (see Table 1). These candidates had completed all other prerequisites for Advanced Certification in Hearing, rendering them eligible for examination. The Committee also conducted a special written examination in the case of an individual with a course-work deficiency who was applying for Basic Certification in Hearing. The examination was successfully passed.

During this period all 13 eligible candidates took the written examination. Eleven of the 13 (85 per cent) passed it successfully on the first attempt. Of the two candidates who failed, one (1957) indicated a desire to take the examination again but, although informed, was on vacation when the examination was given in 1958.

Of the 11 candidates who passed the written examination, seven passed the oral examination on the first attempt and one passed on the second attempt (total of 73 per cent).

The examination for Advanced Certification in Hearing consists of two sections, a written and an oral. The written examination is given in the summer, usually July or August, at the nearest college or university to the applicant. It is an all-day examination, taken on the same day by all applicants. It currently consists of approximately 25 questions, both short answer and essay, covering the professional activity of clinical audiology. Ability to integrate areas of knowledge is tested, as well as familiarity with current audiologic practice and its basis.

The responses to the written examination are read and evaluated independently by the nine members of the Examining Committee without knowledge of names of candidates. The examination is revised annually.

Candidates who pass the written examination are eligible to take the oral examination, given on the day preceding the Annual Convention.

A total of 17 individuals holding Advanced Certification in Hearing has served as members of the Examining Committee in Hearing. The Chairman acknowledges with appreciation the services of the following former members:

Norton Canfield, M.D.
E. Thayer Curry, Ph.D.

TABLE 1. Summary of results of examination for Advanced Certification in Hearing for the period 1955–58.

	*1955**	*1956*	*1957*	*1958*	*Total*
Written Examination Taken		2	5	6	13
Passed		2	4	5	11
Failed		0	1	1	2
Oral Examination Taken		2	5	7	14
Passed		1	3†	4	8
Failed		1	2	3††	6

*One candidate (1955) was in process of meeting the examination requirements when found eligible under the 'grandfather' clause. This person is not included in the data given, although the written examination was passed.
†Includes one repeat examination passed.
††Includes two repeat examinations failed.

James Curtis, Ph.D.
LeRoy D. Hedgecock, Ph.D.
Jacqueline Keaster, M.S.
John Keys, Ph.D.
Harriet Kopp, M.A.
Miriam Pauls, Ph.D.

Individuals who will have completed academic, practicum and experience requirements for Advanced Certification in Hearing by November, 1959, are eligible for examination. Inquiries should be directed to: Committee on Clinical Certification, American Speech and Hearing Association, Suite 532, 1001 Connecticut Avenue, Washington 6, D. C.

Examining Committee for Certification in Hearing

Moe Bergman, Ed.D., (1957-59)
Raymond Carhart, Ph.D., (1958-60)
William G. Hardy, Ph.D., (1958-60)
Claude Hayes, Ph.D., (1959-61)
Frank Lassman, Ph.D., (1957-59)
Hayes Newby, Ph.D., (1958-60)
S. Richard Silverman, Ph.D., (1957-59)
Frances Sonday, Ph.D., (1959-61)
Leo G. Doerfler, Ph.D., *Chairman* (1959-61)

Standards In Public School Speech Correction

The following report was prepared by the American Speech and Hearing Association Sub-Committee on Standards in Public School Speech Correction. The Committee on Clinical Standards in Speech and the Executive Council are favorably disposed toward the report. Opinions of interested members are solicited.

Sub-Committee on Standards in Public School Speech Correction

Martha E. Black
Sandra Brown
Agnes M. Frye
Geraldine Garrison
Dorothy G. Kester
Helen S. Knight
Adah Miner
Wilbert Pronovost
Mamie J. Jones, *Chairman*

Education and Training of Public School Speech Therapists

We recognize that the certification of teachers who engage in speech therapy in public schools is the responsibility of the various state departments of education. With the thought that it might be helpful to state certifying agencies, ASHA hereby provides the following recommendations concerning minimum basic education and specific qualifications for speech therapists in the public schools.

I. ASHA reaffirms its belief in liberal education as an indispensable foundation for speech therapists.

II. ASHA recognizes that the level of competency necessary for the diagnosis and treatment of speech disorders is represented by its Advanced Certification Standard. Each local program should have on its staff a person holding this level of ASHA certification or have such a person available to it for consultation. All speech therapists working in elementary and secondary schools should meet a level of competence corresponding to the requirements for Basic Certification of the ASHA.

III. In addition to this minimum preparation, the following additional training in the field of speech correction is strongly recommended.

A. Public school speech therapists should not be required to meet the certification requirements of the classroom teacher.

B. It is essential for a public school speech therapist's professional preparation to include information on curriculum and methods for classroom teaching and to provide opportunity for observation and/or participation in regular classroom activity. He should also have preparation in the organization and administration of a speech correction program in the public schools.

C. At least 100 clock hours of clinical practice should be spent in a public school situation.

D. In addition to actual therapy, the student teacher should have an opportunity to participate in various school experiences such as the following:
   1. Staffing of cases in conjunction with classroom teachers, administrators, supervisors, nurses, physicians, psychologists, social workers and others
   2. Making home calls and other contacts with parents
   3. Requisitioning materials
   4. Attending professional meetings
   5. Utilizing school records
   6. Observing activities in the regular classrooms
   7. Making speech surveys
   8. Preparing schedules for speech therapy
   9. Developing public relations with parents, teachers and community groups.

E. In view of these recommendations, ASHA recognizes that a five-year educational program of preparation of public school speech therapists should be encouraged.

The American Speech and Hearing Association
presents THE HONORS OF THE ASSOCIATION
to MACK D. STEER

Resolved: that the American Speech and Hearing Association award to Dr. M. D. Steer the Honors of the Association in respectful and grateful recognition of his distinguished contributions to the Association and the profession it represents through the many years that he has served astutely and with exemplary dedication as teacher, educational and clinical administrator and research director and as President of the Association, Member of the Executive Council, Chairman of the Committee on Association Planning, Chairman of the Committee on National Office, Chairman of the Committee on Research and in an impressive array of additional assignments and capacities.

—The American Speech and Hearing Association, in convention at New York City, November 17, 1958.

Biographical Summary

Steer, Mack D., speech pathologist and psychologist; b. New York City, June 14, 1910; m. Ruth Pittelman, 1942.

B.S., Long Island Univ., 1932; M.A., State Univ. Iowa, 1933; Ph.D., State Univ. Iowa, 1938; LL.D. (Hon.), Long Island Univ., 1957.

Grad. Res. Asst., State Univ. Iowa, 1934. Instr., 1935-1937; Asst. Prof., 1938-1940; Assoc. Prof., 1940-1946; Prof., since 1946, Purdue Univ. Dir., Speech Hearing Clinic, Purdue Univ., since 1935. Dir., Acous. Res. Lab., and Aviat. Psychol., Naval Sch. Aviat. Med., Pensacola, Fla., 1942-1946; Lt. Comdr., USNR (Ret.).

Currently, Dir., Voice Communications Lab.; Dir., Public School Hearing Test Service; Purdue Research Foundation Council; Chm., Indiana State Hearing Commission; Speech and Hearing Advisory Committee, Indiana St. Bd. of Hlth.; Consultant, Fort Wayne St. Sch. for Retarded; Consultant, Muscatatuck St. Sch. for Retarded; Adviser, Indiana St. Sch. for the Deaf; Bd. of Dir., Tippecanoe Co. Soc. for Crippled Children.

Amer. Speech and Hearing Assoc. (Fellow; Vice Pres., 1949; Pres., 1951); Amer. Psychol. Assoc.; Acous. Soc. of America; Speech Assoc. of America; Amer. Assoc. for the Advancement of Science; Central States Speech Assoc.; Indiana Speech and Hearing Assoc. (Pres., 1937-1938); Indiana Soc. for Crippled Children and Adults (Vice Pres., 1954); Diplomate in Clin. Psychol., Amer. Bd. of Examiners in Professional Psychol.; Advanced Certificate in Clin. Speech, ASHA; Sigma Xi.

Dir., Purdue Research: Military Voice Communication Res. Proj., 1946-56; Mental Retardation Proj., spon. by U.S. Office of Educ., 1957-1958; Hearing Loss in Public School Pupils, spon. by U. S. Office of Educ., 1959-1960; Stuttering, Purdue Res. Fndtn., 1959. Investigator in ASHA proj. on current status and research needs in speech pathology and audiology, spon. by U.S. Office of Vocational Rehab. and Veterans Administration, 1958-1959.

Author and co-author of more than 100 scientific publications in speech pathology, audiology, voice science, military communications, instrumentation and psycho-acoustics.

Coming Of Age In A Profession

Jon Eisenson

In the past four years the presidents of our Association with most able assistance from our first president and the Editor of the Association, Robert West (*6*), have informed us of who we are, and how we got this way. We were also informed that, though we may understand ourselves and our individual and professional objectives, it is sometimes a bit difficult for persons in other professions to recognize us and to appreciate us. We have grown strong as an organization despite, or perhaps because of, diversity of interests. As Dr. Carhart pointed out in his address last year, '. . . as one contemplates speech pathology, the basic sciences of communication and language, and audiology, one faces areas which defy full description because of the diverse interests that their uncertain boundaries encompass' (*1*).

It is not my present intention to suggest limitations or boundaries for our profession; we are a growing profession; we are coming of age. The emphasis is on the growing and the becoming. In this maturational process we are likely to have contact with other professions that may also be in a comparatively early stage of professional growth. Our contacts may be pleasant and agreeable, or they may develop into conflicts. As professional persons we can discuss, argue or engage in verbal aggression. We may choose to behave like small boys who put chips on their shoulders or who create chalk-line boundaries as a prelude to a fight. We may also establish 'pecking' orders among the professions. If we do so on a unilateral basis, we are likely to find that other professions have their own 'pecking' orders that may not quite agree with ours.

Fortunately, as a profession we have not chosen this procedure to establish ourselves or to distinguish us from members of other professions. But we can earn distinction and be distinguished as professional persons. We can earn distinction individually and collectively by more rapid maturity, by coming of age earlier than most professions do.

Research Attitudes

As professions come into being, their arts and their skills become subjects of scientific investigation.

Recent progress in the field of medicine has been possible because medical scientists have been seeking answers motivated by a spirit of objective inquiry. Occasionally the medical scientist has been able to discover why some witch's brew or some old housewife's ministrations have been effective. Such knowledge gave us antibiotics and opened a new approach to the control of many devastating diseases. Occasionally medical scientists are able to discover why an old household remedy has therapeutic effect, and by further study they have

Jon Eisenson (Ph.D., Columbia University, 1935) is Professor of Speech and Director of the Speech and Hearing Center, Queens College. This article is an adaptation of the Presidential Address given at the 1958 ASHA convention in New York City.

been able to enhance the effectiveness of the remedy. Occasionally also, an objective spirit of inquiry results in the abandonment of some approach. Inquiry may also bring about a re-evaluation and a better appreciation of the benefits a patient may derive by virtue of being involved in treatment as well as the benefits that are derived from the particular approaches or procedures that are part of the therapeutic involvement. The medical profession, through the use of placebo technique, has begun to be able to evaluate the effectiveness of a specific medication from the value obtained merely because a medication of some sort is being administered to a patient. It is not readily possible for clinicians in our profession to use the technique of placebo. We are not able to employ techniques, instruments or devices that are 'untouched by human hands.' Our clinicians are able to engage in treatment only as they establish a relationship with one or more human beings who present a therapeutic problem. It does not take too much sophistication to appreciate that the assumed value of a therapeutic approach or the rationale the clinician may entertain may actually have little to do with the improvement of a patient. This, as Charles Van Riper (*4*) implies in his chapter on 'Symptomatic Therapy for Stutterers,' is part of the reason why some so-called symptomatic treatments are effective. It may explain why some approaches presumed to be symptomatic are effective despite themselves. A clinician necessarily administers treatment in the framework of a relationship he has established with the recipient of the treatment. This relationship may in some instances enhance the over-all therapy. In other instances it may balance out any possible negative effect a specific approach may have. As clinicians we need to know how effective we are as human beings who are engaged in therapy and how effective we are because of the tools and techniques, the devices and procedures we employ.

Techniques and procedures presumed to be therapeutic tend to be passed on and too often continue to be employed simply because their possible values have not been questioned. Yet questioning and investigation of our techniques and procedures may be very much in order. Fortunately, included in our profession are members who are primarily interested in the basic sciences of communication and whose motivations are neither to prove nor disprove, *but to find out.* Occasionally, these scientists may provide us with information that may be disconcerting. We may learn that the only value of one of our favorite therapeutic approaches or of a teaching device is that in using the approach or device a worthwhile relationship was established between clinician and patient, or teacher and student. This may give some of us a feeling akin to that of the fabled emperor who has just discovered the bare facts of his attire. However disturbing this may be to the emperors among us, we need to be grateful to the objective, inquiring scientists within and without our Association who are willing to help both emperors and common citizens to gain insight into their professional accouterments. If we learn why some techniques work, why some of our cases improve just because they happened to be involved in treatment, we may be traveling a long way along the road to mature professional responsibility.

How far we have already traveled can readily be appreciated if we study our Journals for the past few years.

We have an ever increasing number of articles which are reports on the kind of research that has subjected our approaches to scientific and objective study. Wayne Thurman's article on the 'Frequency-Intensity Relationships and Optimum Pitch Level,' which appeared in the second issue of the *Journal of Speech and Hearing Research*, is such an article (*5*). Some of us who have been using the so-called 'sound-swelling' technique for determining optimum pitch may need to reconsider the validity and efficacy of this technique. If we have used this procedure with dysphonic patients, and if our patients have improved, we still need to determine why.

Is is important that Thurman's experiment be replicated. If there is no weakness in the experimental procedure, therapists who continue to employ the 'sound-swelling' approach to determine optimum pitch will have to find some new justification for so doing.

If in a spirit of objective inquiry we are willing to put our theories and our techniques to the test, it will not be necessary for others outside of our profession to do so for us. If our attitudes are dominated by a wish to find out why clinical procedures are effective rather than to justify our approaches and techniques and to undermine the approaches and techniques of others, we will accelerate our professional maturity. For my own part, I should like to see our doctoral candidates do their investigations at universities not too closely identified with a given point of view. I should like universities to interchange their established scholars and their students who are working to establish themselves as scholars. If we do this, the all too human tendency to justify a position because one has become identified with it may be subject to objective and disinterested scrutiny. Academic climates, regardless of geographic location, should make it possible for a doctoral student from one university to gather his data at some other universities interested in the same general problem or area of study. I think that if this could be achieved, many of our theorists, as well as our theories, would mature rather than just grow older. It is all too true that our theories are not discarded because of want of proof; they merely lose prominence for want of advocates and tend to be replaced by other theories, not necessarily newer ones, of sometimes younger and usually more energetic and audible theorists.

The position I would like to recommend in regard to what constitutes an appropriate attitude on research has been succinctly summarized in Gordon Peterson's article on 'Speech and Hearing Research' (*2*). Peterson reminds us that 'research in any field is fundamentally an information seeking process. Important research . . . is the product of an inquiring mind and the determination to know more about a field.'

I should like to pause for the moment to congratulate ourselves as members of the American Speech and Hearing Association on the giant strides we have taken as members of a profession who have learned how to maintain respect for those with whom we differ, to differ with proper regard for the integrity of our colleagues, and to differ as gentle persons who are scholars, and as scholars who remain gentle persons. One cannot help to note how the tone of even the critical articles in our publications differs from those of some of our colleagues in closely related professions.

I believe also that the recognition

of this attitude of objective inquiry made it possible for the ASHA to obtain grants from the Veterans Administration and from the Office of Vocational Rehabilitation of the Federal Department of Health, Welfare and Education. The grants are for the purpose of investigating the needs of research in the fields of speech and hearing. Our Association's Ad Hoc Committee on Research has been at work for the past several months and will meet here for an additional day following the close of our regular sessions.

Self-Supervision

Other measures of our professional maturity are expressed in our ability and willingness for self-evaluation and self-supervision. The February 1958 *Journal of Speech and Hearing Disorders* includes a report by Past President Margaret Hall Powers on the results of a 'Membership Opinion and Attitude' questionnaire. Dr. Powers' report of this self-evaluation study was significant for several reasons: (1) a high proportion of our members—1533—answered the questionnaire; (2) many who answered also took the trouble to write in additional comments. Beyond these indications of interest, our members showed their concern for maintaining and publicizing desirable standards for the training of our therapists and for our Association taking preventive and educative measures to improve the ethical practices of our clinicians.

As a profession we have set minimum standards for the education and training of members of our profession. In part, these standards were a compromise arising out of the recognition of the urgent need for clinicians in our field. We cannot, however, continue indefinitely to maintain ourselves on a compromise or emergency basis. If we are to be respected as members of a profession, our standards for education and training must earn unqualified respect. As a profession we must now resist the pressure exerted by agencies who need speech and hearing clinicians and who are willing to accept young, partly educated and necessarily inexperienced persons to fill their position vacancies. Unfortunately, all too often the agencies also take the position that by accepting persons of lesser education and experience, their therapeutic needs are filled. Agencies that wish to employ young and inexperienced personnel have an obligation to provide adequate supervision by experienced personnel. To do less is to be unfair both to those who are to be treated and to the clinicians who have no one to turn to for advice and counsel when they are confronted with diagnostic and therapeutic problems.

Through our Association's certification procedures and our levels of certification, we have made it known that we are able to supervise ourselves as a profession. We asserted—and so put those concerned on notice—that we recognized a responsibility for the adequacy of the professional education of our members and the clinical experience that accompanied and followed the academic work.

Supervision is a responsibility we cannot shirk. Nor can we permit another profession to assume this responsibility for us. Not that we would long be at a loss for such supervision. Recently I had to assure the chairman of a special committee of a professional medical organization that we could not accept his group's offer to supervise the members of our profession. I pointed out that our Association's standards, our certification pro-

cedures and our code of ethics made it incumbent upon our members to assume only those professional responsibilities for which they were prepared by virtue of their education and training. Self-supervision is one of these responsibilities. If we fail in this responsibility, if we cannot supervise ourselves, the responsibility will not long be ours. If we cease to be able to supervise ourselves, we are at best a dependent profession. More likely many of us would become relegated to the subordinate role of clinical technicians.

At least one organization has indicated that it would like to consider us in the role of subordinate technicians. The February 1958 *Archives of Physical Medicine and Rehabilitation* contains a report of a Committee on Medical Auxiliary Services Related to Physical Medicine and Rehabilitation. This report includes a statement to the effect that the code of ethics of four groups designated as paramedical, of which the American Speech and Hearing Association is one, have 'voluntarily restricted their work to proper supervision by physicians.' All of this, it is important for us to know, came as the newest of news to our Association and to its officers. On invitation from the then chairman of the American Congress of Physical Medicine's Committee on Medical and Auxiliary Services Related to Physical Medicine and Rehabilitation, I wrote a lengthy evaluation of the report in question. Among the points made to the chairman were the following:

1. Our membership as a whole does not think of itself as belonging to a paramedical profession. Some of our members might, in terms of their specific positions, be willing to accept the designation of being engaged in a paramedical profession. Other members, including a number of medical doctors, might well be disinclined to accept this designation.

2. The certification requirements of the American Speech and Hearing Association are based upon standards set by our Standards Committee in Speech and Hearing. Supervision is by our own members who hold advanced certification. Our members could not accept supervision of their professional services by persons who are not certified by the American Speech and Hearing Association if their services are to be credited as experience toward their certification requirements.

3. It was pointed out that this restriction does not in any way refer to the kind of supervision of personnel which is usual in professional settings and which is likely to vary according to the specific character of the setting.

There is considerably more to my reply to the report in question which time does not permit me to present. The point that I would like to emphasize is simply this—if at any time we cease to exercise our responsibility for self supervision, other groups may be more than willing to assume it for us. If this is permitted to occur, we shall no longer exist as a distinct profession.

Professional Ethics

The last point I should like to consider with you as a measure of our professional growth has in effect been a recurrent theme throughout this address. The members of a profession —ours or any other—assume by membership a fundamental ethical obligation to society. Our Code of Ethics states:

> It is convenient to divide the ethical responsibilities of persons in clinical professions into (1) those duties arising out of the relation between the professional

worker and the person who seeks his assistance; (2) duties owed to other professional workers; and (3) obligations to society. These classifications are arbitrary, for actually the duties and responsibilities of the professional worker are indivisible. Any one of these ethical duties clearly implies the other two.

The implication is clear. Regardless of the specific involvement or relationship of a professional worker, his thinking, his awareness and his behavior must demonstrate social responsibility. The immediate individual welfare of the members of any profession, and surely that of the members of our profession, must at all times be subordinated to the welfare of the profession as a whole and to the welfare of the public the profession serves.

The members of our Association have for many years been called upon to advise local, state and federal agencies in matters concerning public needs in our field. We are called upon to advise on educational standards and requirements, to give expert testimony on the needs for legislation and to participate in planning for the future needs of our nation. Our members serve on advisory panels to the Federal Department of Health, Welfare and Education, to the Veterans Administration and to other government agencies. Now that our central office is in Washington, we are better able than ever before to discharge our public obligations. We are now beginning to make returns to the federal government for the financial assistance given us in establishing our own National Office. We are now demonstrating that we are a profession come of age, sensitive to our responsibilities and zealous that individually and collectively, our responsibilities will be discharged in the interests of the public welfare.

References

1. Carhart, R., The personal need for professional unity. *J. Speech Hearing Dis.*, 23, 1958, 5-12.
2. Peterson, G., Speech and hearing research. *J. Speech Hearing Res.*, 1, 1958, 3-11.
3. Powers, M. H., Report to members on the results of the 'membership opinion and attitude' questionnaire. *J. Speech Hearing Dis.*, 23, 1958, 32-35.
4. Van Riper, C., Symptomatic therapy for stutterers. In L. E. Travis (ed.), *Handbook of Speech Pathology*. New York: Appleton-Century-Crofts, 1957.
5. Thurman, W. L., Frequency-intensity relationships and optimum pitch level. *J. Speech Hearing Res.*, 2, 1958, 117-123.
6. West, R. W., Ibi fuistis. *J. Speech Hearing Dis.*, 23, 1958, 26-31.

REPORT OF THE CONVENTION
American Speech and Hearing Association
New York City, New York, November 14-19, 1958

The stenographic report, including copies of reports submitted by officers and the committee chairmen, constitutes the minutes of the 1958 Convention. These are on file in the National Office. The following is an abstract of those minutes and includes important matters of business introduced by motions during the Council and Business Meetings.

Council Meetings

November 14, 1958, 9:00 a.m.

The following officers, officers elect and members of the Council were present: Jon Eisenson, Raymond Carhart, George A. Kopp, Stanley Ainsworth, Jack Matthews, Leo G. Doerfler, Miriam Pauls, Kenneth O. Johnson, Robert West, Wendell Johnson, Ruth Beckey Irwin, Herold S. Lillywhite, Ernest Henrikson, Ira Hirsh, Hayes A. Newby, Wilbert Pronovost, Sylvia Onesti Richardson, Charlotte G. Wells.

President Eisenson called the meeting to order.

Minutes of the 1957 Convention. Moved by Kopp and seconded by Newby that the minutes of the 1957 Convention be approved as published in the May 1958 issue of the *Journal of Speech and Hearing Disorders.* Passed.

Report of the President: Jon Eisenson. Actions of the Council since the previous formal meeting were: (1) approved a $2 fee for applicants for membership; (2) approved a reduced fee of $2 for early payment of dues; (3) approved a penalty fee of $4 for reinstatement of membership after a lapse of one or more years; (4) approved Los Angeles as the location for the 1960 Annual Convention (week of October 30) rather than San Francisco as had been previously approved; (5) approved Miss Grace Semer's application for membership; (6) approved the non-verbatim recording of the Council and Business Meetings; (7) approved four-day convention programs if deemed desirable by the Convention Program Committee.

The President reported on special appointments and committee appointments for 1958. Correspondence was reviewed and discussed relative to the infringement on ASHA responsibilities and the speech and hearing profession by the Congress of Physical Medicine and Rehabilitation.

Grants received during 1958 included: $10,000 as the final payment on a $20,000 fiscal year 1958 Office of Vocational Rehabilitation Training Grant; $525 as a supplemental grant from OVR; $7500 as the first payment on a $15,000 OVR Continuation Training Grant for FY '59; $2950 from OVR as a Research Grant for a study of the 'Vocational Rehabilitation Research Areas and Needs in the Field of Speech and Hearing'; $2450 from the Veterans Administration who served as co-sponsors with OVR on the research project; and $300 from the Veterans Administration as a supplemental grant.

The report of the President was accepted with commendation.

Report of the Vice-President: Leo G. Doerfler. Doerfler summarized the 1958 Convention Program. The final report is to be available soon after the Convention.

Upon motions duly made, seconded and approved by the Council, it was:

1. Resolved, that the Council express its appreciation to Walter Amster, Bernard Locke and Kenneth O. Johnson for the excellent work done on the Convention.

2. Resolved, that an individual may appear on the Convention Program no more than twice. An appearance may include presentation of a paper or co-authoring a paper, participation on a panel as a discussant, demonstration, or similar activity.

3. Resolved, that appearance on the Convention Program as a chairman of a meeting, other than a discussion leader, not be considered as an appearance (as described in Resolution 2).

4. Resolved, that the Committee on Committees be empowered to act for the Council in appointing the Program Committee prior to the Annual Convention.

Report of the Ad Hoc Committee on the National Office: Jon Eisenson, Chairman. Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that in the future, when there are important questions of policy regarding change of fringe benefits for the staff of the National Office, these questions be brought by the Executive Secretary to the Council for action.

2. RESOLVED, that the matching retirement arrangements for the Executive Secretary be the Teachers' Insurance and Annuity Association of America Plan as supplemented by College Retirement Equities Fund or another approximately equivalent plan with the effective date January 1, 1958.

Report of the Committee on Membership: Kenneth O. Johnson, Chairman. Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that a questionnaire study (to obtain factual information about the status of the membership, *e.g.*, employment contexts, age, sex, salary, highest degree) be conducted at an appropriate time.

2. RESOLVED, that as of January 1, 1960, subject to appropriate By-Law revision, Associate status be reserved for undergraduate students.

3. RESOLVED, that the Committee on Membership give particular attention to encouraging Teachers of the Deaf to become Members of ASHA providing they meet membership requirements.

There being some question about the accuracy of the 1957 membership figures as reported, the Council recommended that Kopp and K. O. Johnson make the necessary corrections.

Report of the Committee on Time and Place: Kenneth O. Johnson, Chairman. Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that the 35th Annual Convention be held in Cleveland, Ohio, at the Hotel Statler, November 11-14, 1959.

2. RESOLVED, that the 36th Annual Convention be held in Los Angeles, California, at the Hotel Statler, November 2-5, 1960, or November 3-5, 1960, final dates to be selected and approved by the Executive Council no later than December 1959.

3. RESOLVED, that the Executive Secretary and the Committee on Time and Place explore the advantages of holding the Annual Convention immediately prior to Thanksgiving, which Convention might last as long as four days, but which would be planned in such a way that at least the last half day would not be designed to appeal to everyone and which might go through Wednesday.

Meeting recessed at 12:45 p.m.

November 14, 1958, 2:00 p.m.

The meeting was reconvened and called to order by President Eisenson. The same officers and members of the Council were present as at the morning session.

Report of the Committee on Terminology: Kenneth Scott Wood, Chairman. A report was made of progress on the preparation of a glossary of controversial terms. A full report may be expected in 1959.

Report of the Committee on Budget: Kenneth O. Johnson, Chairman. Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that the 1959 estimated budget be approved as presented.

2. RESOLVED, that the Association's funds be maintained in a single account; that the annual audit made by Peat, Marwick, Mitchell and Co. no longer show separate accounts for 'General Funds' and 'Publications Funds'; that the auditor certify in his annual report that not less than 33 1/3 per cent of the amount of annual dues received has been expended for publications; that should the circumstance arise when less than 33 1/3 per cent of the amount of annual dues received has been expended for publications, the auditor's report will indicate the amount to be retained for use of future publications.

3. RESOLVED, that the fee for Clinical Certification be raised to $20, applicable to new applications submitted after January 1, 1959.

4. RESOLVED, that the Convention registration fee be raised to $6 for members and that the Committee on Budget be authorized to establish the registration fees for Associates and non-members.

5. RESOLVED, that dues for members be $15 if paid within 45 days of the issue date on the dues bill and $17 if paid later.

6. RESOLVED, that special dispensation in the form of a $5 reduction as regards dues be given graduate students who are registered for seven or more credit hours per term during the period in which the $15 fee is payable.

The estimated deficit for 1958 is $13,500.

Report of the Executive Secretary: Kenneth O. Johnson. Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that the following seal be approved as the Seal of the Corporation and included in the By-Laws of the Association:

2. RESOLVED, that the Executive Secretary be authorized to direct a letter to the American Hearing Society acknowledging with satisfaction the introduction of ASHA certification requirements into the AHS member agency staffing requirements.

3. RESOLVED, that a liaison representative be appointed to the American Psychological Association in lieu of the present Sub-Committee on Liaison with the American Psychological Association.

4. RESOLVED, that a small committee be appointed to meet with representatives of the Department of Labor to assist in the development of work descriptions for the various job titles in our field.

5. RESOLVED, that affiliation with the American Association for the Advancement of Science be approved and the Executive Secretary be authorized to provide AAAS with the information and materials necessary to satisfy their affiliation procedure.

6. RESOLVED, that the Committee on Revision of the By-Laws be instructed to prepare the texts of sections necessary to establish a Committee on Research as a standing Committee of the Association.

7. RESOLVED, that funds be appropriated annually for a framed photograph (approximately 20" x 24") of the President, this photograph to hang in the National Office during his term and be presented to him at the annual convention by the immediate Past-President as an expression of the appreciation of the membership.

8. RESOLVED, that the recommendation 'that $500 be appropriated annually for an American Speech and Hearing Association Scientific Achievement Award to be presented to the member of ASHA who, during the year, through published research, contributed most to the speech and hearing field and that the selection be made by the Committee on Honors' be referred to the Committee on Honors for consideration and report.

9. RESOLVED, that the matters of designations for persons working in the speech and hearing field, a broad plan for providing leadership (publications and standards) for the total field of communicative disorders, and evaluation of the minimum training and certification requirement be referred to the Committee on Association Planning for early consideration.

The auditor's report (Peat, Marwick, Mitchell and Co., Washington, D. C.) showing the Balance Sheet (assets and liabilities) for the period January 1—December 31, 1957, and the statement of Income and Expenses for the year ending December 31, 1957, was presented. This report is printed following these minutes.

10. RESOLVED, that the Auditor's Report be approved as submitted.

Meeting recessed at 5:30 p.m.

November 14, 1958, 7:30 p.m.

The meeting was reconvened and called to order by President Eisenson. The same officers and members of the Council were present as at the afternoon session.

Report of the Business Manager: Kenneth O. Johnson. Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that the bid from Interstate Printers and Publishers for printing the 1959 *JSHD* and *JSHR* be accepted.

2. RESOLVED, that the *Directory* not be published in 1959; that the *Directory's* next publication date be set for approximately March 1960; that the *Directory* receive major revision and that the revision be begun in 1959; that $2000 be provided for editorial services in 1959; that the *Directory* be published as a separate volume and be published separately from the *Journal of Speech and Hearing Disorders;* that the source of funds for underwriting the *Directory* be studied by the Committee on Budget during 1959 and recommendations

concerning this aspect of publishing the 1960 *Directory* be presented at a meeting of the Executive Council in 1959; that the content and standardization of *Directory* material be developed by the Editor of the Association and his Committee on Publications; and that the *Directory* be edited by the National Office.

3. RESOLVED, that the Business Manager be authorized to obtain advertising for *Abstracts* of the Convention Program.

4. RESOLVED, that the Business Manager be authorized to obtain advertising for the *Annual Convention Program.*

5. RESOLVED, that Article IV of the By-Laws be changed to permit the Council to determine what publications in addition to the *Journal of Speech and Hearing Disorders* and the *Journal of Speech and Hearing Research* will be provided members for part of their dues.

Report of the Executive Vice-President: Stanley Ainsworth. Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that the Sub-Committee on Preparation of a Liaison Publication be dropped because it has fulfilled its duty. Dr. Robert McCroskey is to be commended for finishing this job. The Brochure is to be referred to the Committee on Publications.

2. RESOLVED, that the Sub-Committee on Liaison with Federal Agencies be continued but its name changed to Liaison Sub-Committee on Federal Legislation; that it act as an advisory group for the Executive Secretary; and that the membership be determined by the Executive Vice-President and the Executive Secretary.

3. RESOLVED, that the Council express its deep appreciation to Dr. Ainsworth for his many fine efforts on behalf of the Association in his capacity of Executive Vice-President during the past four years.

Report of the Committee on Revision of the By-Laws: Elaine Paden. The following motions were duly made, seconded and approved by the Council:

1. Article V, Section 2, Paragraph (a): Revise the second sentence to include a responsibility always assumed in this Association to rest with the President, but not previously stated specifically, as follows:

> It shall be his duty to preside at all regular business meetings of the Association and of the Executive Council, to call emergency meetings of the Association, Executive Council, or any of its committees, to appoint at the direction of the Executive Council all members of committees except those specified to be elected, and to promote the interests of the Association in all ways.

2. Article IX, Section 3: In order to make the statement of duties consistent with Article VII, Section 2, revise the last sentence to read as follows:

> The Committee shall prepare nominations for all Officers, Committee Chairmen, and Council Members to be elected and submit these nominations to the Executive Council for approval or revision and recommendation to the Membership at the annual meeting.

3. Article IX, Sections 9 and 10: In order to remedy an ambiguous and vague statement concerning duties, the following statement be approved in lieu of the 3rd, 4th and 5th sentences of Article IX, Sections 9 and 10:

> The Committee shall continuously study the existing requirements for certification of clinical competency in the speech (hearing) and recommended methods for improving standards to the Executive Council for its approval.

4. Article IX, Section 15: Revise the last sentence to make it completely consistent with Article XIII, Section 2, to read as follows:

> This Committee shall appoint, subject to the ratification of the Executive Council, the editors of the *Journal of Speech and Hearing Disorders* and the *Journal of Speech and Hearing Research,* ratify the editorial staffs for all official publications, and serve in an advisory capacity to the Editor of the Association in matters relating to general publication policy.

Report of the Committee on History of the Association: Robert West, Chairman. West requested and obtained discussion from the Council on several questions basic to the preparation of a History of the Association.

Report of the Committee on Ethical Practice: Herold Lillywhite, Chairman. Upon motion duly made, seconded and approved by the Council, it was:

RESOLVED, that the responsibility be assigned to the Committee on Publications for the development of an extended program of information and education for personnel of other professions regarding the existence and functions of ASHA, its standards of

ethical practice, and its publications. This program should include as a first priority the publication of a convenient handbook to be widely distributed.

Meeting recessed at 12:30 a.m.

November 15, 1958, 9:00 a.m.

The meeting was reconvened and called to order by President Eisenson. The same officers and members of the Council were present as listed for the previous day's meeting.

Report of the Committee on Committees: George Kopp, Chairman. Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that the Committee on Committees be given the power to make such committee changes as are made necessary by election.

2. RESOLVED, that the Committee on Committee's report be approved with changes. (The 1959 committees and their membership are presented in full following these minutes.)

3. RESOLVED, that the Committee on Committees be instructed to replace at least one-third of all committee membership each year with people who did not serve on committees during the preceding year, except as terms and membership are designated by the By-Laws.

Report of the Committee on Honors: George Kopp, Chairman. The Council duly approved the following:

Honors of the Association: M. D. Steer.

Fellow of the Association: Jack L. Bangs, Robert Goldstein, LeRoy D. Hedgecock, James F. Jerger, John Joseph O'Neill, William Gerald Wolfe, Betty Jane McWilliams, Sylvia Richardson, George H. Shames, John P. Moncur.

Report of the Committee on American Speech and Hearing Foundation: Wendell Johnson, Chairman. Relative to the receipt of funds by the Association, the Council approved the following statement: That it is the sense of the Council that the preferred way for scholarship money to get to the scholars is for the money to be given to the Foundation which would issue the scholarship in the name of the donor, where appropriate.

Meeting recessed at 12:30 p.m.

November 15, 1958, 2:00 p.m.

The meeting was reconvened and called to order by President Eisenson. The same officers and members of the Council were present as for the morning meeting.

Report of the Committee on Organizational Structure: Elise Hahn, Chairman. Two plans were presented in the report. Upon motion duly made, seconded and approved by the Council, it was:

RESOLVED, that the Council adopt Alternate II of the Recommendations of the Committee on Organizational Structure, with the revision of the name 'The House of Delegates' to 'The House of State Delegates of the ASHA.'

Alternate II, as revised, was duly moved, seconded and approved by the Council. The plan adopted is as follows:

The
House of State Delegates
of the
American Speech and Hearing Association

The House of State Delegates of the American Speech and Hearing Association shall be a representative body composed of the following Members of the American Speech and Hearing Association:

1. One delegate from each recognized state group on speech and hearing (see below) whose ASHA membership totals less than 100 or two delegates from each recognized state group whose ASHA membership exceeds 100.

2. An alternate delegate may be elected to take the position if the first delegate cannot attend the national meeting.

3. Each delegate shall have one vote in the execution of the business of the House.

4. The delegate shall serve two years, but may be elected for one additional term if the state group desires. If a delegate changes his location after one term, he may be elected by another state group to serve one additional term for the state into which he has moved.

Recognition of State Organizations:

1. A state group whose purposes and structure are consistent with the purposes of ASHA may be recognized by the Council upon a petition for such recognition.

2. Such a group must show that a majority of its membership, exclusive of undergraduate students, are Members of ASHA.

3. Such a group must submit, for approval by the Council, a copy of its Constitution and By-Laws indicating aims and a Code of Ethics consistent with those of ASHA.

4. The geographical organization shall be the state rather than the region, and no more than one such group shall be recognized in each state.

5. Application for recognition should be directed to the National Office of ASHA.

Business of the House of State Delegates:

1. The House of State Delegates shall discuss and propose policies for the consideration of the Council.

2. It shall receive reports from the President and the Executive Secretary and such other reports from the Council as it may request.

3. It shall elect one member each year for appointment to each of the following committees:

Committee on Nominations
Committee on Liaison
Committee on Time and Place
Committee on Convention Program
Committee on Publications and such other committees as the Council shall designate.

4. The House shall elect its own Nominating Committee for the purpose of proposing names for the above committees and for the offices of Parliamentarian and Clerk of the House.

5. The House may receive specific topics from the Council for discussion and expression of opinion, or may have such discussion topics proposed by the state organizations or by groups of Members at large, submitted through the delegates.

6. The House shall become operative as soon as 12 state organizations have been recognized by the Council.

Officers of the House:

1. The Chairman of the House at its first meeting shall be the President-Elect of the Association. The House shall elect its own Chairmen for subsequent meetings. The Chairmen shall be elected a year in advance of taking office.

2. The House shall elect a Vice-Chairman, a Parliamentarian, and a Clerk, each to serve a term of two years.

3. The Chairman shall prepare the agenda for the meetings of the House.

Meetings of the House:

The House shall meet on the day preceding the opening of each Annual Convention of the American Speech and Hearing Association, and at least one additional meeting shall be held during the Convention.

Report of Sub-Committee on Short Course for Training Audiometric Technicians: Courtney Osborn, Chairman. Upon motion duly made, seconded and approved by the Council, it was:

RESOLVED, that the report be referred to the Committee on Standards in Hearing for further study and recommendations, and that Ainsworth be authorized to report progress of the Committee.

Meeting recessed at 5:30 p.m.

November 15, 1958, 7:30 p.m.

The meeting was reconvened and called to order by President Eisenson. The same officers and members of the Council were present as were at the afternoon meeting.

Report of the Liaison Sub-Committee with the International Association of Laryngectomees and American Cancer Society: William F. Waldrop, Chairman. The following recommendations were duly made, seconded and approved by the Council: (1) that the title 'Suggested Recommendations for Standards for Teachers of Laryngectomees' be changed to 'Recommended Qualifications for Teachers of Laryngectomees' and (2) that the Council approve the recommendations of the Sub-Committee with the specific change in preceding Resolution, and other changes in language resulting from discussion.

The approved statement, including changes in the report approved by the Council, is as follows:

Recommended Qualifications for Teachers of Laryngectomees

Programs for the rehabilitation of the laryngectomee have been organized by the Medical Profession, the American Speech and Hearing Association and the International Association of Laryngectomees. Recognizing the tremendous contribution these programs have made and in order to continue such contributions and insure programs of high quality, the following recommendations, concerning qualifications of personnel who engage in work with the laryngectomee, are made to the AMA, ASHA, ACS, and IAL, in order to provide professional and qualified instructors who have had sufficient training and experience in this field:

A. Any person not a laryngectomee, to be considered qualified to work individually and independently in the speech rehabilitation of the laryngectomee or to be responsible for a teacher training program and supervision of practice experience of those learning to become teachers of the laryngectomee, should hold status as follows:

1. Advanced clinical certification, in speech, in the ASHA, or
2. Basic clinical certification, in speech, in the ASHA plus evidence of having completed, at least, 80 clock hours of combined theory and practice, in the rehabilitation of the laryngectomee, in a program under the direction and supervision of an individual with advanced clinical certification in speech in the ASHA, and offered by an accredited academic institution.

B. In order to work in the field of speech rehabilitation of the laryngectomee, a laryngectomee who does not hold advanced or basic ASHA certification, as described under A, should have acquired automatic, fluent speech and have been successfully rehabilitated; he should be a person of good integrity and satisfactory personality, and have acquired an adequate education and social ethics. In addition, he should qualify under one of the following categories:

1. For such a person to work individually and independently in the rehabilitation of laryngectomees, he should have acquired at least 80 clock hours of combined theory and practice in the rehabilitation of the laryngectomee, in a program under the direction and supervision of an individual with advanced clinical certification in ASHA, and offered in an accredited institution. The following subjects should be covered in such training:
   a. Anatomy and physiology of the speech mechanism.
   b. Counseling the laryngectomee and the family, pre- and post-operatively.
   c. General principles of voice production and articulation of laryngeal speech.
   d. Physiological phonetics.
   e. Principles of speech correction.
   f. Theories and principles of post-laryngectomy voice and articulation.
   g. Orientation to the medical and the social management of the laryngectomized.
   h. Supervised clinical practice in the rehabilitation of the laryngectomee.
2. Those who have engaged in teaching the laryngectomee, for a minimum of three (3) years and, in the judgment of a joint ASHA and IAL Committee, have by experience and study, satisfied the spirit of the regulations listed under *B-1* may also be recognized as qualified to work individually and independently in the rehabilitation of the laryngectomee. (It is anticipated that people so recognized will have honored the recommendation of at least 80 clock hours by January 1, 1961.)
3. A laryngectomized person who qualifies under *B*, but who does not have sufficient training or experience as described under *B-1* or *B-2*, shall work only under the supervision of persons who do qualify under *A*. These persons should be used at the most advantageous time in the pre-operative, post-operative, or speech training phases.

Report of the Committee on Group Insurance: Delyte Morris, Chairman. Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that the Council accept the recommendations of the Committee on Group Insurance, together with the program as outlined in the brochure of the Association Service Office, with the stipulation that the individual participating in the Plan may choose either Option I or II of the Schedule of Benefits and Premiums, as outlined in the brochure.

2. RESOLVED, that a three-man committee be appointed to guide the insurance program through the first year.

3. RESOLVED, that Kopp and K. O. Johnson be authorized to sign the necessary contractual papers with the Association Service Office on behalf of ASHA.

Report of the Committee on Association Planning: George Kopp, Chairman. In order to establish a temporary registry of qualified educational institutions, the Council approved the following statement to be completed appropriately by all eligible and interested institutions; identical statements with appropriate substitution of the word 'hearing' for 'speech' are to be used for institutions desiring to be listed on the hearing registry:

Educational institutions desiring to be listed with the Association's 'Education and

Training Registry' are required to sign the following statement annually:

The curriculum provided by_____
Name of Institution

includes all academic requirements for the American Speech and Hearing Association's Basic Clinical Certificate in Speech. The teaching staff includes a person who holds the Advanced Clinical Certificate in Speech.

In recognition of the curriculum in Speech Correction, Basic Clinical Certification in Speech has been awarded to the following persons who have taken their academic work at _____
Name of Institution
during the past five years.

1. _____
2. _____
3. _____
4. _____
5. _____

_____
Date

_____
Signature of Person Holding Advanced Clinical Certificate in Speech or Sponsor Privilege (Indicate Which)

_____
Head of Department

Upon motion duly made, seconded and approved by the Council, it was:

RESOLVED, that the Committee on Standards prepare statements describing the work areas in which speech and hearing people are employed and suggest the preparation and requirements for these work areas.

Recommendation 4 of the Committee on Association Planning was as follows:

That the Executive Council approve and recommend to the membership the creation of a corporation known as the American Speech and Hearing Association Board of Examiners in Speech Pathology and Audiology for the purposes: (a) to establish and to maintan Boards of Examiners responsible for the formulation of Standards; (b) to arrange and to conduct examinations to determine the qualifications of individuals, organizations and institutions applying for certificates of competence issued by the Corporation; (c) to grant and to insure appropriate certificates; (d) to maintain a registry of holders of such certificates; (e) to prepare and to furnish to proper persons and agencies lists of individuals, organizations and institutions who have been certified by the Corporation. (The Council agreed that approval of Recommendation 4 would not indicate approval of a specific name for the corporation.)

Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that the Council approve Recommendation 4 of the report of the Committee on Association Planning insofar as it refers to the establishment of the Diplomate status, without reference to procedure.

2. RESOLVED, that the Council approve Recommendation 4 of the report of the Committee on Association Planning insofar as it refers to the establishment of a Board for Clinical Services, without reference to procedure.

3. RESOLVED, that the Council approve Recommendation 4 of the report of the Committee on Association Planning insofar as it applies to the evaluation of educational and training programs, without reference to procedure.

Meeting recessed at 1:30 a.m.

November 16, 1958, 7:00 p.m.

The meeting was reconvened and called to order by President Eisenson. The same officers and members of the Council were present as were at the afternoon session.

Report of the Committee on Publications: Robert West, Chairman. Reports were received from Mary Huber, Editor, *Journal of Speech and Hearing Disorders*, and Dorothy Sherman, Editor, *Journal of Speech and Hearing Research*.

Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that the Directory should not be issued during 1959, but rather, early in 1960.

2. RESOLVED, that members receive the *Journal of Speech and Hearing Disorders*, the *Journal of Speech and Hearing Research*, and such other publications the Council may determine.

3. RESOLVED, that Associates shall receive one of the Association's two journals, as they select, and such other publications as the Council may determine.

4. RESOLVED, that Mary Huber and Dorothy Sherman be appointed Editors of the *Journal of Speech and Hearing Disorders* and *Journal of Speech and Hearing Research* respectively, the appointment being for a four-year term.

5. RESOLVED, that the Business Manager be authorized to negotiate for advertising

for any of the publications of the Association that may be approved to receive advertising by the Committee on Publications.

6. RESOLVED, that the Executive Secretary be authorized to publish a 'house organ,' as recommended by the Committee on Publications, initiation of this to be dependent upon the procuring of sufficient advertising revenue to guarantee the balance of the cost beyond the funds provided by the Budget.

7. RESOLVED, that hereafter the *Directory* be considered a separate and individual publication not connected with one of the Journals.

8. RESOLVED, that the Executive Council of the American Speech and Hearing Association invite the American Hearing Society to co-sponsor a recruitment brochure that is now in preparation.

Report of the Committee on Association Planning (continued). Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that the Executive Secretary determine details of the legal procedure necessary to establish a corporation that will be legally distinct from, but functionally related to, the American Speech and Hearing Association and that will be designed to accomplish the proposals of the Boards as specified in the 1958 Committee Report on Association Planning and to act with the approval of a majority of the President, Executive Vice-President and Chairman of the Committee on Association Planning to establish such a corporation with reasonable and deliberate speed.

2. RESOLVED, that the plan approved by the Executive Council be submitted to the membership for approval and that the Board should be perpetuated by a plan similar to that included in the 1958 Report of the Committee on Association Planning.

3. RESOLVED, that the Executive Council shall appoint nine Fellows of ASHA who have doctorates as the initial Trustees of the Corporation.

4. RESOLVED, that the Executive Secretary transfer $1000 from the Association's funds to the account established by the Trustees in the name of the American Speech and Hearing Association Board of Examiners in Speech Pathology and Audiology. (See below for further action taken on the name of the corporation.)

5. RESOLVED, that the new corporation be called the American Board of Examiners in Speech Pathology and Audiology.

6. RESOLVED, that Dr. George Kopp be extended a vote of confidence and commendation for the work he accomplished on the Committee on Association Planning.

Report of the Committee on Clinical Standards in Speech: Lester L. Hale, Chairman. The Committee presented a statement concerning the education and training of public school speech therapists. This statement printed in full on page 192, as in the case of the following resolutions, was made, seconded and approved by the Council. It was:

1. RESOLVED, that the Committee on Publications arrange for the publication of the statement concerning the education and training of public school speech therapists as soon as possible and make reprints available.

The Council approved a recommendation that the published statement indicate that it is a Sub-Committee report and that it include a foreword stating that the Committee on Clinical Standards in Speech and the Executive Council are favorably disposed toward the report and that opinions of interested members are solicited prior to further Council action.

2. RESOLVED, that phonetics be a required course in the basic area. In satisfying this requirement, such a course should be concerned with phonetic science and not with personal speech improvement; this to be effective January 1, 1961.

3. RESOLVED, that the Sub-Committee on Clinical Standards in Public School Speech Correction be continued and that this Sub-Committee develop a representative job description for public school speech correctionists in conjunction with the Committee on Clinical Standards in Speech or another appropriate committee.

BUSINESS MEETING

November 17, 1958, 8:15 p.m.

Raymond Carhart called the meeting to order and introduced President Jon Eisenson, who presented his Presidential Address.

Carhart presented Eisenson with the 'President's Picture.'

Eisenson and other officers of the Council summarized recent actions of the Council. The matters presented to the Business Meeting are reported in the minutes of the preceding Council sessions.

Doerfler summarized Convention matters and innovations and introduced the Chairman of the Committee on Local Arrangements, Walter Amster.

The Report of the Committee on Association Planning was discussed at some length. There was much discussion concerning the manner by which this action would be carried out and the advantages and disadvantages to the membership.

K. O. Johnson read the following recommendation approved by the Council: 'That dues for members be $15 if paid within 45 days of the issue date on the dues bill and $17 if paid later; special dispensation in the form of a $5 reduction to be given to graduate students registered for seven or more hours during the term in which the $15 is payable.'

After discussion, this recommendation was duly made, seconded and approved unanimously by the members.

Meeting recessed at 11:30 p.m.

Council Meeting

November 18, 1958, 9:00 a.m.

The meeting was reconvened and called to order by President Eisenson. The same officers and members of the Council were present as were at the previous session.

Upon motions duly made, seconded and approved by the Council, it was:

1. Resolved, that at future conventions it shall be announced throughout the program that sessions of the Council are open to members, except for those sessions devoted to selected items brought to the Council by the Committee on Ethical Practices, the Committee on Honors, and the Committee on Nominations.

2. Resolved, that at future conventions, during the time the Council is in closed session, a sign be posted outside the door indicating the nature of the particular closed session and that all other sessions are open to members.

3. Resolved, that at future conventions, the Council meet in a room large enough to provide for a large number of members as participants.

Report of the Committee on Clinical Standards in Speech (continued). The Council discussed the *Manual for Sponsors* and several other matters about standards in speech.

Report of the Committee on Clinical Standards in Hearing: John Gaeth, Chairman. Upon motions duly made, seconded and approved by the Council, it was:

1. Resolved, that the applicant for Advanced Hearing not be permitted to take the examinations until after all other requirements have been met. Specifically, it is recommended that Section 8, Examination, of the Requirements for Certification in Hearing be revised to include a new second sentence which states: 'The examinations may not be taken until all other requirements have been satisfied.'

2. Resolved, that after January 1, 1960, the Sponsor Privilege in hearing no longer be granted.

3. Resolved, that the Committee on Clinical Standards in Hearing be encouraged to think along the lines of elimination of specific course requirements.

Meeting recessed at 12:00 p.m.

November 18, 1958, 2:00 p.m.

The meeting was reconvened and called to order by President Eisenson. The same officers and members of the Council were present as were at the morning session.

Report of the Committee on Clinical Standards in Hearing (continued). Upon motions duly made, seconded and approved by the Council, it was:

1. Resolved, that the Committee on Clinical Standards in Hearing present its plan for certification for people in hearing at the next Executive Council Meetings of the next Annual Convention.

2. Resolved, that the preregistered aspect of the experience requirement be dropped, but that sponsored experience be continued (in hearing).

3. Resolved, that the preregistered aspect of the experience requirement be dropped, but that sponsored experience be continued (in speech).

Report of the Committee on Budget (continued). Upon motions duly made, seconded and approved by the Council, it was:

1. Resolved, that the dues for spouses of members be $8 if paid within 45 days of dues bill, and $10 if paid later, provided that the spouse elect not to receive any of the *Journals*.

2. Resolved, that dues for members who are graduate students be $10 if paid within 45 days of dues bill, and $12 if paid later.

Report of the Committee on Clinical Certification: Ruth Irwin, Chairman. Upon motion duly made, seconded and approved by the Council, it was:

RESOLVED, that an Ad Hoc Committee be created on the transfer of clinical certification functions to the National Office.

Meeting recessed at 5:15 p.m.

November 18, 1958, 8:00 p.m.

The meeting was reconvened and called to order by President Eisenson. The same officers and members of the Council were present as attended the previous session.

Report of the Committee on Clinical Certification (continued). Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that a budget of $6669 be approved for the operation of the Committee on Clinical Certification. At least $1200 should be allowed to the Chairman's office for secretarial help.

Report of the Ad Hoc Committee on Research: M. D. Steer, Chairman.

1. RESOLVED, that the 1958 Ad Hoc Committee on Research be continued for 1959 with whatever additions the President may deem wise.

2. RESOLVED, that the Committee on Association Planning consider the functions which a research committee should undertake and advise the Council on the details of the instructions which should be given to the Committee on By-Laws so that a Standing Committee can be established for the Association.

Report of the Committee on Nominations: Raymond Carhart, Chairman. Upon motions duly made, seconded and approved by the Council, the following individuals were nominated for the offices and positions indicated and are to be presented to the membership for election.

President-Elect
Stanley Ainsworth
Leo G. Doerfler

Vice-President-Elect
T. D. Hanley
Jack L. Bangs

Councilor-at-Large (Basic Science)
Arthur S. House
James F. Jerger

Councilor-at-Large (General)
Katherine T. Thorn
Helen Knight

Chairman-Elect Committee on Ethical Practice
Herold Lillywhite
Hayes Newby

Chairman-Elect Committee on Clinical Certification
Ruth B. Irwin
Bruce Siegenthaler

Report of the Committee on Honors (continued). Upon motion duly made, seconded and approved by the Council, it was: RESOLVED, that the following resolutions in the report of the Committee on Honors be adopted:

1. RESOLVED, that the American Speech and Hearing Association award to Dr. M. D. Steer the Honors of the Association in respectful and grateful recognition of his distinguished contributions to the Association and the profession it represents through the many years that he has served astutely and with exemplary dedication as teacher, educational and clinical administrator, and research director and as President of the Association, Member of the Executive Council, Chairman of the Committee on Association Planning, Chairman of the Committee on National Office, Chairman of the Committee on Research and in an impressive array of additional assignments and capacities.

2. RESOLVED, that the American Speech and Hearing Association express its appreciation for and admiration of the high standards of professional effectiveness which have characterized the administration of its outgoing President, Dr. Jon Eisenson, who has led the Association through its first challenging but heartening year of a National Office with devotion, calmness, balance and wisdom.

3. RESOLVED, that we express our thanks to Dr. Stanley Ainsworth for his unceasing, dedicated, and perceptive work as Executive Vice-President, an office from which he is now retiring. His administration of the office has been marked by conscientious and unselfish devotion to our interests, intelligent and imaginative adaptation to a changing professional world, and an unfailing and genuine good nature in his contacts with his fellow officers.

4. RESOLVED, that the Association express its appreciation to retiring Vice-President Leo Doerfler for his resourcefulness, his thoroughly conscientious attention to detail, and his wise and gracious leadership in creating and conducting the superb program of the 1958 meeting.

5. RESOLVED, that the members of the American Speech and Hearing Association reaffirm the high esteem in which they hold Dr. Robert West, retiring Editor of the Association and Chairman of the Committee on Publications, and express their warm appreciation of his significant contributions to the profession in this most recent of the many services to the Association which have marked his long and distinguished professional career.

6. RESOLVED, that the members of the American Speech and Hearing Association make a matter of formal record their recognition and appreciation of the extraordinary perceptiveness, judgment and industry with which Dr. Kenneth O. Johnson, as Executive Secretary, has moved in inaugurating and developing the program of the Association's newly established National Office in Washington, D. C. Through his reasoned, dignified, and gracious representation of the interests of the Association to public and private agencies, other professional and scientific societies, and to individuals and the general public, he has greatly enhanced the prestige of the Association and extended the scope of its beneficent influence.

7. RESOLVED, that we take special pleasure in expressing our gratitude to Dr. Ernest Henrikson for his years of intelligent and devoted service on the Executive Council, from which he is now retiring. These years are but a fraction of a professional and personal life rich in devoted service to his profession and all those to whom it ministers.

8. RESOLVED, that we are constantly in debt to Dr. Wendell Johnson for his services to the Association. He has served us often and well as officer and committee member. During the past year, however, quite outside of our organizational structure, Dr. Johnson has served us particularly well. While acting as advisor to the Federal Office of Education, his counselling was so wise, his vision so far reaching, and his scholarship so valued, that he created for our Washington office a spirit of confidence and good will in high places. We thank you, Dr. Johnson.

9. RESOLVED, that the Association express its gratitude to retiring Councilor Charlotte Wells for her constructive service to the membership by her wise and insightful contributions to the deliberations of the Council.

10. RESOLVED, that to Dr. Walter Amster and the members of his Committee on Local Arrangements, the American Speech and Hearing Association express deep gratitude for the gracious, efficient, and impressively industrious manner in which they arranged for the local administration of the Association's 1958 Convention. The thoughtful planning and the labor by Dr. Amster and his Committee which contributed to the success of this Convention extended far beyond the call of duty and the bounds of ordinary expectation.

11. RESOLVED, that we express to Dr. Charles S. Bluemel our warm appreciation of his contributions to the American Speech and Hearing Foundation of certain royalties in addition to an extraordinarily generous gift. These contributions stand as an inspiring demonstration of professional responsibility and creative dedication to our common scientific, educational, and humanitarian purposes.

12. RESOLVED, that the American Speech and Hearing Association express our appreciation to Dr. Bernard Locke, Chief of Clinical Psychology Service, Veterans Administration Hospital, New York City Facility, for his sympathetic interest in the planning of the 1958 Convention and for his considerateness in making it possible for Dr. Amster, of his Department, to perform the necessary work for the Local Arrangements Committee.

Report of the Committee on the American Speech and Hearing Foundation (continued). Upon motion duly made, seconded and approved by the Council, it was:

RESOLVED, that, the Chairman of the Committee on American Speech and Hearing Foundation requesting clarification of the legal form and status of the American Speech and Hearing Foundation, it is the sense of the Council that the Executive Secretary is authorized to proceed with this as soon as possible.

Report of the Committee on Clinical Certification (continued). Upon motions duly made, seconded and approved by the Council, it was:

1. RESOLVED, that the Chairmen of Clinical Standards in Speech, Clinical Standards in Hearing, Ethical Practice, Association Planning, and Clinical Certification Committees have a face-to-face meeting for discussing the improvement of standards and certification procedures. This meeting should follow correspondence with members of respective committees.

2. RESOLVED, that space (not over two pages each issue) be allowed in *Journal of*

Speech and Hearing Disorders for Clinical Certification Committee and that some part be questions and answers so members will have an opportunity to have some of their questions answered.

Report of the Committee on Ethical Practice (continued). The Committee was commended and given a vote of confidence by the Council for the dignified way in which cases before the Committee had been handled.

Meeting recessed at 2:15 a.m.

November 19, 1958, 9:30 a.m.

The meeting was reconvened and called to order by President Eisenson. The same officers and members of the Council were present as attended the previous session.

Report of the Committee on Ethical Practice (continued). The Committee raised numerous points for Council discussion concerning the interpretation of words and statements in the By-Laws and Code of Ethics. Upon motion duly made, seconded and approved by the Council, it was:

RESOLVED, that the Committee on Budget provide funds for a face-to-face meeting of the Committee on Ethical Practice during 1959.

Report of the Committee on Revision of the By-Laws: Elaine Paden, Chairman. Drafts of By-Law revisions were considered and returned to the Committee for restudy.

Report of the Committee on Association Planning (continued). The Council discussed the matter of the Boards of Examiners and reaffirmed its earlier decision to bring the matter before the entire membership for vote.

Meeting recessed at 12:00 p.m.

November 19, 1958, 3:30 p.m.

The meeting was reconvened and called to order by President Eisenson. The same officers and members of the Council were present as attended the previous meeting.

Upon motion duly made, seconded and approved by the Council, it was:

RESOLVED, that Miss Luella Bormann be awarded a $100 honorarium for her exceptional efforts during 1958 as secretary in the National Office.

Report of the Committee on the American Speech and Hearing Foundation (continued). Upon motion duly made, seconded and approved by the Council, it was:

RESOLVED, that the American Speech and Hearing Foundation work with the Executive Secretary to establish principles for receiving funds for the Foundation.

Report of the Executive Vice-President (continued). The Council discussed the changing function of the Executive Vice-President as the result of the new office of Executive Secretary. Upon motion duly made, seconded and approved by the Council, it was:

RESOLVED, that the President, the Executive Vice-President, and the Executive Secretary formulate the revised duties of the Executive Vice-President's Office and the President's Office in line with the consensus of the Council at the 1958 Convention.

Meeting recessed at 5:00 p.m.

BUSINESS MEETING

November 19, 1958, 2:15 p.m.

President Eisenson called the meeting to order. He introduced Dr. Romaine Mackie of the United States Office of Education, who introduced Dr. Donald Harrington, the new specialist in speech and hearing in the Office of Education.

Eisenson announced the total Convention registration as 2522.

Actions of the Council subsequent to the most recent Business Meeting were presented.

The name of Dean E. Williams was nominated from the floor for the position of Councilor-at-Large. This name, duly moved and seconded, is to appear on the ballot.

Eisenson presented the presidential gavel to Dr. George Kopp, President-Elect.

Meeting adjourned at 3:20 p.m.

COMMITTEE APPOINTMENTS

Standing Committees

Committees (Officers, Executive Secretary, President-Elect, Chairman)

1. George A. Kopp
2. Jack Matthews
3. Miriam Pauls
4. Kenneth O. Johnson
5. Wendell Johnson
6. Stanley Ainsworth, Chairman

Nominations (Four appointive members; most recent ex-president, Chairman)

1. Leo G. Doerfler
2. Ernest Henrikson
3. Frederic Darley
4. Charlotte Wells
5. Jon Eisenson, Chairman

Budget (President; Editor of the Association; Executive Vice-President; Executive Secretary, Chairman)
1. George A. Kopp
2. Wendell Johnson
3. Jack Matthews
4. Kenneth O. Johnson, Chairman

Liaison (President; Vice-President; Executive Secretary; Editor of the Association; Chairman of the Committee on Clinical Certification; Chairman of the Committee on Ethical Practice; Executive Vice-President, Chairman) No appointive members
1. George A. Kopp
2. Miriam Pauls
3. Wendell Johnson
4. Ruth B. Irwin
5. Herold Lillywhite
6. Kenneth O. Johnson
7. Jack Matthews, Chairman

Convention Program (Vice-President-Elect; appointive members; Vice-President, Chairman)
1. Jack L. Bangs
2. Miriam Pauls, Chairman

Membership (One member each from speech disorders, hearing disorders, and basic speech and hearing sciences; Chairman of the Committee on Ethical Practice; Executive Secretary, Chairman)
1. Stanley Dickson (Speech)
2. Mary Costello (Hearing)
3. John O'Neill (Science)
4. Herold Lillywhite
5. Kenneth O. Johnson, Chairman

Honors (Five members who are Fellows; President-Elect, Chairman)
1. Leo G. Doerfler
2. M. D. Steer
3. Gordon Peterson
4. James Carrell
5. Eugene McDonald
6. Stanley Ainsworth, Chairman

Clinical Standards in Speech (Four members who hold Advanced Clinical Certificate in Speech; appointive chairman)
1. Mamie J. Jones
2. Oliver Bloodstein
3. Walter Amster
4. George Shames
5. Charlotte Wells, Chairman (1959-61)

Clinical Standards in Hearing (Four members who hold Advanced Clinical Certificate in Hearing; appointive chairman)
1. John Keys
2. William Hardy
3. LeRoy D. Hedgecock
4. Jacqueline Keaster
5. John H. Gaeth, Chairman (1957-59)

American Speech and Hearing Foundation
1. Kenneth O. Johnson
2. M. D. Steer
3. Charles Van Riper
4. Martin Palmer
5. William Wolfe
6. Miriam Pauls
7. Oliver Bloodstein
8. Wendell Johnson, Chairman

Clinical Certification (At least eight appointive members, all holding Advanced Clinical Certificate, four in speech, four in hearing; elected chairman)
1. Elmer Baker
2. Robert McCroskey
3. Courtney Osborn
4. Waring Fitch
5. Victor Garwood
6. Forrest Hull
7. Leola Horowitz
8. Empress Zedler
9. Mary Quirk
10. Sheila Morrison
11. Donald Markle
12. Edwin Shutts
13. Glenn Taylor
14. Helen G. Burr
15. Milton Valentine
16. Ruth B. Irwin, Chairman (1956-59)

Ethical Practice (Four members, one each from speech, hearing, and basic speech and hearing science; elected chairman)
1. Sylvia Richardson (1958-59)
2. Arthur House (1959-60)
3. Hayes Newby (1958-59)
4. E. Thayer Curry (1959-60)
5. Herold Lillywhite, Chairman (1958-59)

Terminology
1. Asa Berlin (1959-62)
2. Jack Clark (1956-59)
3. Aram Glorig (1957-60)
4. Elaine Paden (1958-61)
5. Kenneth S. Wood, Chairman (1959-62)

Time and Place (Three appointive members; Executive Secretary, Chairman)
1. Crayton Walker
2. Richard Dixon
3. James Jerger
4. Kenneth O. Johnson, Chairman

American Speech and Hearing Association
Statement of Income*
(Peat, Marwick, Mitchell & Co., Certified Public Accountants)
Year ended December 31, 1957

	Total	*General Association*	*Journal of Speech and Hearing Disorders and other Publications*
Income:			
Association dues	$17,214.34	17,214.34	—
Convention income	7,126.05	7,126.05	—
Member subscriptions	16,906.75	—	16,906.75
Certification fee income	5,222.50	5,222.50	—
Library subscriptions	5,519.60	—	5,519.60
Non-member subscriptions	1,157.00	—	1,157.00
Single copy sales	1,765.15	—	1,765.15
Bound volume sales	190.00	—	190.00
Other publications sales	1,170.00	—	1,170.00
Interest on government bonds	414.00	276.00	138.00
Convention proceedings sales	744.00	—	744.00
Grant received from U. S. Department of Health, Education and Welfare	10,000.00	10,000.00	—
	67,429.39	39,838.89	27,590.50
Expenses:			
Executive-Secretary salary	1,041.67	1,041.67	—
Program committee	100.00	100.00	—
Committee on clinical certification	3,881.62	3,881.62	—
Convention expense	7,210.94	7,210.94	—
Placement service expense	326.73	326.73	—
Secretarial assistance	2,423.37	1,266.40	1,156.97
Postage	2,069.38	1,013.37	1,056.01
Stationery and supplies	1,478.70	882.85	595.85
Telephone and telegraph	155.51	155.51	—
Professional service	760.00	380.00	380.00
Printing expense (note 2)	26,401.89	5,451.28	20,950.61
Editorial	1,213.41	—	1,213.41
Editorial assistants	3,828.29	—	3,828.29
Moving expense	800.00	800.00	—
Depreciation	188.55	188.55	—
I B M service fees	2,138.96	1,069.46	1,069.50
Miscellaneous	3,241.18	3,237.18	4.00
	57,260.20	27,005.56	30,254.64
Net income (loss) for the year	$10,169.19	12,833.33	(2,664.14)
Statement of Accumulated Earnings			
Balance at December 31, 1956	$40,836.28	31,870.71	8,965.57
Net income (loss) for the year	10,169.19	12,833.33	(2,664.14)
Balance at December 31, 1957	$51,005.47	44,704.04	6,301.43

*See accompanying Notes to Financial Statements.

Publications (Three appointive members, one each from the fields of speech disorders, hearing disorders, and basic speech and hearing sciences; Editor of

American Speech and Hearing Association
Balance Sheet
(Peat, Marwick, Mitchell & Co., Certified Public Accountants)
December 31, 1957

Assets		
Current assets:		
Cash		$ 46,529.14
U. S. Government securities, at cost		15,000.00
Accounts receivable		2,520.00
Prepaid rent		420.00
Total current assets		64,469.14
Equipment, at cost less depreciation:		
Office equipment	$ 2,523.41	
Less allowance for depreciation	419.90	2,103.51
		$ 66,572.65
Liabilities		
Current liabilities:		
Accounts payable		$ 11,070.98
Advance payment of dues and subscriptions		4,496.20
Accumulated earnings:		
General Association	$44,704.04	
Journal of Speech and Hearing Disorders and other publications	6,301.43	51,005.47
		$ 66,572.65

Notes to Financial Statements

1. In accordance with the established policy of the Association, no valuation has been ascribed at December 31, 1957, to the inventory of previous issues of the *Journal of Speech and Hearing Disorders* or other publications held for possible resale.
2. Commencing with the calendar year 1957, the *Annual Directory* printing costs were charged to the General Association fund rather than to the Publications fund as in prior years.

the *JSHD;* editors of any other publications; the Business Manager; Editor of the Association, Chairman)

1. Kenneth O. Johnson
2. Virgil Anderson (1959-61)
3. S. Richard Silverman (1957-59)
4. Gordon Peterson (1958-60)
5. Dorothy Sherman—Editor of *JSH Research* (1959-62)
6. Mary Huber—Editor of *JSH Disorders* (1959-62)
7. Wendell Johnson, Chairman (1959-62)

Special Committees

Association Planning

1. Stanley Ainsworth
2. Jon Eisenson
3. Grant Fairbanks
4. S. Richard Silverman
5. Kenneth O. Johnson
6. Margaret Hall Powers, Chairman

Group Insurance

1. Isaac Brackett
2. Kenneth O. Johnson
3. M. D. Steer
4. Freeman McConnell
5. James Mullendore
6. Delyte W. Morris, Chairman

Liaison between Otology and Audiology

1. Bernard Anderman
2. Courtney Osborn
3. Moe Bergman
4. Glenn Taylor
5. S. Richard Silverman, Chairman

Liaison Sub-Committee on Federal Legislation

To Be Appointed

Liaison Sub-Committee on International Association of Laryngectomees and American Cancer Society

1. John O. Anderson
2. Jack Bangs

3. Louis DiCarlo
4. Warren Gardner
5. William F. Waldrop, Chairman

Liaison Sub-Committee on State Agencies and Certification

1. Robert N. Plummer, Arizona
2. Victor P. Garwood, California
3. Ruth M. Clark, Colorado
4. Geraldine Garrison, Connecticut
5. Ray E. Keesey, Delaware
6. Mamie J. Jones, Georgia
7. D. K. Wilson, Florida
8. Charlotte Cleeland, Idaho
9. Martha E. Black, Illinois
10. Margaret Rowe, Indiana
11. Dale S. Bingham, Iowa
12. Margaret C. Byrne, Kansas
13. Charles F. Diehl, Kentucky
14. C. Cordelia Brong, Louisiana
15. William A. Philbrick, Jr., Mass.
16. Keith Maxwell, Michigan
17. Robert L. McCroskey, Mississippi
18. Norma Lee Lucas, Missouri
19. John H. Wiley, Nebraska
20. Janet M. Smaltz, North Dakota
21. George W. Gens, New Jersey
22. Fred M. Chreist, New Mexico
23. Henry Youngerman, New York
24. Melvin Hyman, Ohio
25. Thayne A. Hedges, Oklahoma
26. Robert Mulder, Oregon
27. Asa J. Berlin, Pennsylvania
28. Norman J. Lambries, South Carolina
29. Elmerine S. Flint, South Dakota
30. Forrest M. Hull, Tennessee
31. Kathleen Varner, Texas
32. Boyd V. Sheets, Utah
33. Harriet May Dunn, Vermont
34. James M. Mullendore, Virginia
35. Adah L. Miner, Washington
36. Ruth Garrett, West Virginia
37. Gretchen M. Phair, Wisconsin
38. R. Edwin Shutts, Maryland
39. Calvin W. Pettit, Washington, D. C.

Sub-Committee on Standards in Public School Speech Correction

1. Hildred Gross
2. Gretchen Phair
3. Wilbert Pronovost
4. Helen S. Knight
5. Martha Black
6. Donald Harrington, Chairman

Examining Committee for Certification in Hearing

1. Moe Bergman (1957-59)
2. S. Richard Silverman (1957-59)
3. Frank Lassman (1957-59)
4. Raymond Carhart (1958-60)
5. Hayes Newby (1958-60)
6. William G. Hardy (1958-60)
7. Claude Hayes (1959-61)
8. Francis Sonday (1959-61)
9. Leo G. Doerfler, Chairman (1959-61)

Revision of By-Laws

1. William Tiffany
2. Bruce Graham
3. Elaine Paden, Chairman

Sub-Committee on Special Examination in Speech (Sub-Committee on Clinical Certification)

1. Earl W. Blank
2. Isaac Brackett
3. Thayne Hedges
4. Harold L. Luper
5. Kenneth S. Wood
6. Nancy Wood
7. Murray Halfond
8. Melvin Hyman, Chairman

History of the Association

1. H. Harlan Bloomer
2. Bryng Bryngelson
3. Grant Fairbanks
4. Delyte W. Morris
5. Martin Palmer
6. Samuel Robbins
7. Robert West, Chairman

Ad Hoc Committees

Ad Hoc Committee on Job Titles

1. Calvin Pettit
2. Edwin Shutts
3. Richard Hendricks
4. Bernard Anderman
5. Crayton Walker
6. Kenneth O. Johnson, Chairman

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